MINUTES OF THE 123RD MEETING OF STATE LEVEL EXPERT APPRAISAL COMMITTEE (SEAC), JHARKHAND HELD ON 07TH, 08TH, 09TH, 10TH AND 11TH MAY, 2025.

The 123rd meeting of State Level Expert Appraisal Committee (SEAC), Jharkhand was held on 07th, 08th, 09th, 10th and 11th May, 2025 under the Chairmanship of Shri Ashok Kumar Singh, IFS (Retd.) in the Conference Room at SEAC, Ranchi.

The following members were present:

1. Shri Ashok Kumar Singh, IFS (Retd.) - Chairman
2. Shri Niranjan Lal Agarwalla - Member
3. Dr. Raju Kumar - Member
4. Shri Ashok Kumar Dubey, IFS (Retd.) - Member (Virtual)
5. Dr. Ajay Govind Bhatt - Member
6. Shri Srikant Verma, IFS - Member Secretary

SEIAA forwarded various projects to the SEAC for the technical appraisal after the last SEAC meeting held on 24th, 25th, 26th, 27th and 28th March, 2025. These projects have been put up for discussions. Besides, these Projects, wherein PP's were asked to provide requisite information / clarifications in the earlier meeting of SEAC, were also considered for appraisal. The Project Proponents have been asked to make technical presentation for the appraisal of their projects before the committee.

The following observations /recommendations were made during the presentation (Project - wise), as under :-

Day 1 : May 07th, 2025 [Wednesday]

A. Matter related to :

i. Deputy Commissioner, Pakur letter no. 467/M, dated 29.03.2025 with regard to M/s Shree Guru Stone Works.

At the time of consideration of any mining project for grant of EC, cognizance is taken of the contiguous / cluster certificate issued by the DMO of the concerned District. In the certificate, the DMO certifies the number of leases alongwith their respective areas within 500 meters of the mine lease under consideration for grant of EC.

If the total cluster area specified in the above certificate is less than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B2 category as per EIA Notification, 2006 as amended from time to time. If the total cluster area specified in the above certificate is equal to or more than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B1 category as per EIA Notification, 2006 as amended from time to time.

For this project of M/s Shree Guru Stone Works (ML Area 2.30 Ha / 5.69 Acres), Contiguous / Cluster certificate has been issued by DMO, Pakur vide memo no. 1342/M, dated 04.08.2021 (**Copy attached**) stating that there is one other mine (2.45 Acres)

within 500 meters of the project under consideration. The sum total of the 02 leases is 8.14 Acres / 3.29 Ha. This certificate was issued by DMO, Pakur and handed over directly to the mine lessee vide memo no. 1342/ M, dated 04.08.2021. The lessee has uploaded this certificate on the PARIVESH Portal of the MoEF&CC, Govt. of India at the time of applying for EC alongwith all requisite documents. There is no scope of tampering of any uploaded documents on PARIVESH Portal of the MoEF&CC, Govt. of India at the level of SEIAA or any other agency / person.

During time of appraisal of this project before SEAC in the presence of Project Authority, on the basis of this certificate of DMO, presentation was made under the B2 Category.

On the basis of the this certificate of DMO, documents and presentation of the project was made under B2 Category in the presence of Project Authorities (PAs) and after appraisal by SEAC, EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2452/2021/197, dated 30.10.2021. Thus, there is no role or scope of SEIAA / SEAC to make any change or tampering in the certificate / any documents submitted by PAs. It is important to mention that all documents / certificate are uploaded on PARIVESH Portal of the MoEF&CC, Govt. of India.

Subsequently, DMO, Pakur vide letter no. 604/M, dated 13.05.2024 which is addressed to M/s Shree Guru Stone Works, Prop. : Shri Amarjeet Singh, S/o : Late Kuldeep Singh, Malgodam Road, Bagtipara, Pakur made it clear that total cluster area of this project is 17.44 Acres (7.06 Ha) and instructed PAs to obtain EC under B1 Category from State Environment Impact Assessment Authority. A copy of above mentioned letter was given to SEIAA vide memo no. 604/M, dated 13.05.2024 **(Copy attached)** and on the basis of this letter SEIAA came to know that actual cluster area of this project is 17.44 Acres (7.06 Ha).

Further, on the request of DMO, Pakur vide letter / memo no. 604/M, dated 13.05.2024 the SEIAA issued show cause to PAs by keeping EC on abeyance. The PAs submitted clarification to SEIAA stating that his proposed ML area is 2.30 Ha and cluster certificate issued to him for his lease area was less than 5.00 Ha and he further requested to issue EC under B1 category as directed by DMO, Pakur vide letter no. 604/M, dated 13.05.2024.

On the basis of memo no. 604/M, dated 13.05.2024 of DMO, Pakur and show cause reply of PAs, the earlier EC issued to lessee was withdrawn by SEIAA. The lessee submitted a fresh application for consideration of the proposal for EC under B1 category as per direction of the DMO, Pakur vide its memo no. 604/M, dated 13.05.2024. Accordinglty, the project was further appraised under B1 category and also vide memo no. 150, dated 12.07.2024 the Deputy Commissioner, Pakur and Member Secretary, JSPCB requested to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

The observation of the Committee is :

- As the contiguous / cluster certificate from the DMO, Pakur which was for area 3.29 Ha was uploaded on PARIVESH Portal of MoEF&CC, Govt. of India by PAs. The allegation of the DC, Pakur that the certificate has been Tampered by SEIAA is baseless.
- At the time of execution of lease the DC / DMO should / might have taken in to consideration of the actual cluster area of the leases in the cluster which was available in DMO office. Then mining lease should not have been executed and should not allow the execution of mining operation which has been carried on for years.
- The DMO, Pakur is soley responsible for issuing a contiguous / cluster certificate to the lessee and also the lease should be executed on the basis of correct contiguous / cluster certificate.

Accordingly, Deputy Commissioner, Pakur should take cognizance of memo no. 150, dated 12.07.2024 of SEIAA to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

Accordingly, SEIAA may communicate the above observation of SEAC to Deputy Commissioner, Pakur.

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ii. Deputy Commissioner, Pakur letter no. 473/M, dated 29.03.2025 with regard to M/s Rajiv Ranjan Pandey.

At the time of consideration of any mining project for grant of EC, cognizance is taken of the contiguous / cluster certificate issued by the DMO of the concerned District. In the certificate, the DMO certifies the number of leases alongwith their respective areas within 500 meters of the mine lease under consideration for grant of EC.

If the total cluster area specified in the above certificate is less than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B2 category as per EIA Notification, 2006 as amended from time to time. If the total cluster area specified in the above certificate is equal to or more than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B1 category as per EIA Notification, 2006 as amended from time to time.

For this project of M/s Rajiv Ranjan Pandey (ML Area 2.54 Ha / 6.28 Acres), Contiguous / Cluster certificate has been issued by DMO, Pakur vide memo no. 1245/M, dated

23.07.2021 **(Copy attached)** stating that there is one other mine (3.66 Acres) within 500 meters of the project under consideration. The sum total of the 02 leases is 9.94 Acres / 4.02 Ha. This certificate was issued by DMO, Pakur and handed over directly to the mine lessee vide memo no. 1245/M, dated 23.07.2021. The lessee has uploaded this certificate on the PARIVESH Portal of the MoEF&CC, Govt. of India at the time of applying for EC alongwith all requisite documents. There is no scope of tampering of any uploaded documents on PARIVESH Portal of the MoEF&CC, Govt. of India at the level of SEIAA or any other agency / person.

During time of appraisal of this project before SEAC in the presence of Project Authority, on the basis of this certificate of DMO, presentation was made under the B2 Category.

On the basis of the this certificate of DMO, documents and presentation of the project was made under B2 Category in the presence of Project Authorities (PAs) and after appraisal by SEAC, EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2447/2021 /187, dated 30.10.2021. Thus, there is no role or scope of SEIAA / SEAC to make any change or tampering in the certificate / any documents submitted by PAs. It is important to mention that all documents / certificate are uploaded on PARIVESH Portal of the MoEF&CC, Govt. of India.

Subsequently, DMO, Pakur vide letter no. 606/M, dated 13.05.2024 which is addressed to M/s Rajiv Ranjan Pandey, Partner : Shri Rajiv Ranjan Pandey, S/o : Shri Avadhesh Kumar Pandey and Shri Baski Nath Pandey, S/o : Shri Rajiv Ranjan Pandey, Sindhipara, Pakur made it clear that total cluster area of this project is 16.69 Acres (6.75 Ha) and instructed PAs to obtain EC under B1 Category from State Environment Impact Assessment Authority. A copy of above mentioned letter was given to SEIAA vide memo no. 606/M, dated 13.05.2024 **(Copy attached)** and on the basis of this letter SEIAA came to know that actual cluster area of this project is 16.69 Acres (6.75 Ha).

Further, on the request of DMO, Pakur vide letter / memo no. 606/M, dated 13.05.2024 the SEIAA issued show cause to PAs by keeping EC on abeyance. The PAs submitted clarification to SEIAA stating that his proposed ML area is 2.54 Ha and cluster certificate issued to him for his lease area was less than 5.00 Ha and he further requested to issue EC under B1 category as directed by DMO, Pakur vide letter no. 606/M, dated 13.05.2024.

On the basis of memo no. 606/M, dated 13.05.2024 of DMO, Pakur and show cause reply of PAs, the earlier EC issued to lessee was withdrawn by SEIAA. The lessee submitted a fresh application for consideration of the proposal for EC under B1 category as per direction of the DMO, Pakur vide its memo no. 606/M, dated 13.05.2024. Accordinglty, the project was further appraised under B1 category and also vide memo no. 152, dated 12.07.2024 to Deputy Commissioner, Pakur and Member Secretary, JSPCB requested to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

The observation of the Committee is :

- As the contiguous / cluster certificate from the DMO, Pakur which was for area 4.02 Ha was uploaded on PARIVESH Portal of MoEF&CC, Govt. of India by PAs. The allegation of the DC, Pakur that the certificate has been tampered by SEIAA is baseless.
- At the time of execution of lease the DC / DMO should / might have taken in to consideration of the actual cluster area of the leases in the cluster which was available in DMO office. Then mining lease should not have been executed and should not allow the execution of mining operation which has been carried on for years.
- The DMO, Pakur is soley responsible for issuing a contiguous / cluster certificate to the lessee and also the lease should be executed on the basis of correct contiguous / cluster certificate..

Accordingly, Deputy Commissioner, Pakur should take cognizance of memo no. 152, dated 12.07.2024 of SEIAA to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

Accordingly, SEIAA may communicate the above observation of SEAC to Deputy Commissioner, Pakur.

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iii. **Deputy Commissioner, Pakur letter no. 463/M, dated 29.03.2025 with regard to Md. Najimuddin.**

At the time of consideration of any mining project for grant of EC, cognizance is taken of the contiguous / cluster certificate issued by the DMO of the concerned District. In the certificate, the DMO certifies the number of leases alongwith their respective areas within 500 meters of the mine lease under consideration for grant of EC.

If the total cluster area specified in the above certificate is less than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B2 category as per EIA Notification, 2006 as amended from time to time. If the total cluster area specified in the above certificate is equal to or more than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B1 category as per EIA Notification, 2006 as amended from time to time.

For this project of Md. Najimuddin (ML Area 1.42 Ha / 3.50 Acres), Contiguous / Cluster certificate has been issued by DMO, Pakur vide memo no. 1043/M, dated 03.07.2021 (**Copy attached**) stating that there is 02 other mine (3.47 Acres & 3.71 Acre) within 500 meters of the project under consideration. The sum total of the 03 leases is 10.68 Acres / 4.32 Ha. This certificate was issued by DMO, Pakur and handed over directly to the mine lessee vide memo no. 1043/M, dated 03.07.2021. The lessee has uploaded this certificate on the PARIVESH Portal of the MoEF&CC, Govt. of India at the time of applying for EC alongwith all requisite documents. There is no scope of tampering of any uploaded documents on PARIVESH Portal of the MoEF&CC, Govt. of India at the level of SEIAA or any other agency / person.

During time of appraisal of this project before SEAC in the presence of Project Authority, on the basis of this certificate of DMO, presentation was made under the B2 Category.

On the basis of the this certificate of DMO, documents and presentation of the project was made under B2 Category in the presence of Project Authorities (PAs) and after appraisal by SEAC, EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2407/2021 /149, dated 23.09.2021. Thus, there is no role or scope of SEIAA / SEAC to make any change or tampering in the certificate / any documents submitted by PAs. It is important to mention that all documents / certificate are uploaded on PARIVESH Portal of the MoEF&CC, Govt. of India.

Subsequently, DMO, Pakur vide letter no. 605/M, dated 13.05.2024 which is addressed to M/s Md. Najimuddin, S/o : Late Md. Tahiruddin, Village + P.O. : Kasimnagar, Distt. : Birbhum (West Bengal) made it clear that total cluster area of this project is 13.68 Acres (5.54 Ha) and instructed PAs to obtain EC under B1 Category from State Environment Impact Assessment Authority. A copy of above mentioned letter was given to SEIAA vide memo no. 605/M, dated 13.05.2024 (**Copy attached**) and on the basis of this letter SEIAA came to know that actual cluster area of this project is 13.68 Acres (5.54 Ha).

Further, on the request of DMO, Pakur vide letter / memo no. 605/M, dated 13.05.2024 the SEIAA issued show cause to PAs by keeping EC on abeyance. The PAs submitted clarification to SEIAA stating that his proposed ML area is 1.42 Ha and cluster certificate issued to him for his lease area was less than 5.00 Ha and he further requested to issue EC under B1 category as directed by DMO, Pakur vide letter no. 605/M, dated 13.05.2024.

On the basis of memo no. 605/M, dated 13.05.2024 of DMO, Pakur and show cause reply of PAs, the earlier EC issued to lessee was withdrawn by SEIAA. The lessee submitted a fresh application for consideration of the proposal for EC under B1 category as per direction of the DMO, Pakur vide its memo no. 605/M, dated 13.05.2024. Accordingly, the project was further appraised under B1 category and also vide memo no. 146, dated 12.07.2024 to Deputy Commissioner, Pakur and Member Secretary, JSPCB requested to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

The observation of the Committee is :

- As the contiguous / cluster certificate from the DMO, Pakur which was for area 4.32 Ha was uploaded on PARIVESH Portal of MoEF&CC, Govt. of India by PAs. The allegation of the DC, Pakur that the certificate has been tampered by SEIAA is baseless.
- At the time of execution of lease the DC / DMO should / might have taken in to consideration of the actual cluster area of the leases in the cluster which was available in DMO office. Then mining lease should not have been executed and should not allow the execution of mining operation which has been carried on for years.
- The DMO, Pakur is soley responsible for issuing a contiguous / cluster certificate to the lessee and also the lease should be executed on the basis of correct contiguous / cluster certificate.

Accordingly, Deputy Commissioner, Pakur should take cognizance of memo no. 146, dated 12.07.2024 of SEIAA to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

Accordingly, SEIAA may communicate the above observation of SEAC to Deputy Commissioner, Pakur.

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iv. **Deputy Commissioner, Pakur letter no. 471/M, dated 29.03.2025 with regard to Shri Avinash Kumar Bhagat.**

At the time of consideration of any mining project for grant of EC, cognizance is taken of the contiguous / cluster certificate issued by the DMO of the concerned District. In the certificate, the DMO certifies the number of leases alongwith their respective areas within 500 meters of the mine lease under consideration for grant of EC.

If the total cluster area specified in the above certificate is less than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B2 category as per EIA Notification, 2006 as amended from time to time. If the total cluster area specified in the above certificate is equal to or more than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B1 category as per EIA Notification, 2006 as amended from time to time.

For this project of Shri Avinash Kumar Bhagat (ML Area 2.343 Ha / 5.79 Acres), Contiguous / Cluster certificate has been issued by DMO, Pakur vide memo no. 1387/M,

dated 10.09.2020 (**Copy attached**) stating that there is 03 other mine (2.13 Acres, 1.15 Acre & 2.26 Acre) within 500 meters of the project under consideration. The sum total of the 04 leases is 11.33 Acres / 4.65 Ha. This certificate was issued by DMO, Pakur and handed over directly to the mine lessee vide memo no. 1387/M, dated 10.09.2020. The lessee has uploaded this certificate on the PARIVESH Portal of the MoEF&CC, Govt. of India at the time of applying for EC alongwith all requisite documents. There is no scope of tampering of any uploaded documents on PARIVESH Portal of the MoEF&CC, Govt. of India at the level of SEIAA or any other agency / person.

During time of appraisal of this project before SEAC in the presence of Project Authority, on the basis of this certificate of DMO, presentation was made under the B2 Category.

On the basis of the this certificate of DMO, documents and presentation of the project was made under B2 Category in the presence of Project Authorities (PAs) and after appraisal by SEAC, EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2322/2021 /33, dated 14.07.2021. Thus, there is no role or scope of SEIAA / SEAC to make any change or tampering in the certificate / any documents submitted by PAs. It is important to mention that all documents / certificate are uploaded on PARIVESH Portal of the MoEF&CC, Govt. of India.

Subsequently, DMO, Pakur vide letter no. 600/M, dated 13.05.2024 which is addressed to Shri Avinash Kumar Bhagat, S/o : Shri Pradeep Prasad bhagat, Dhuliyan Road, Harindanga Bazar, Pakur made it clear that total cluster area of this project is 15.83 Acres (6.41 Ha) and instructed PAs to obtain EC under B1 Category from State Environment Impact Assessment Authority. A copy of above mentioned letter was given to SEIAA vide memo no. 600/M, dated 13.05.2024 (**Copy attached**) and on the basis of this letter SEIAA came to know that actual cluster area of this project is 15.83 Acres (6.41 Ha).

Further, on the request of DMO, Pakur vide letter / memo no. 600/M, dated 13.05.2024 the SEIAA issued show cause to PAs by keeping EC on abeyance. The PAs submitted clarification to SEIAA stating that his proposed ML area is 2.343 Ha and cluster certificate issued to him for his lease area was less than 5.00 Ha and he further requested to issue EC under B1 category as directed by DMO, Pakur vide letter no. 600/M, dated 13.05.2024.

On the basis of memo no. 600/M, dated 13.05.2024 of DMO, Pakur and show cause reply of PAs, the earlier EC issued to lessee was withdrawn by SEIAA. The lessee submitted a fresh application for consideration of the proposal for EC under B1 category as per direction of the DMO, Pakur vide its memo no. 600/M, dated 13.05.2024. Accordinglty, the project was further appraised under B1 category and also vide memo no. 145, dated 12.07.2024 to Deputy Commissioner, Pakur and Member Secretary, JSPCB requested to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

The observation of the Committee is :

- As the contiguous / cluster certificate from the DMO, Pakur which was for area 4.65 Ha was uploaded on PARIVESH Portal of MoEF&CC, Govt. of India by PAs. The allegation of the DC, Pakur that the certificate has been tampered by SEIAA is baseless.
- At the time of execution of lease the DC / DMO should / might have taken in to consideration of the actual cluster area of the leases in the cluster which was available in DMO office. Then mining lease should not have been executed and should not allow the execution of mining operation which has been carried on for years.
- The DMO, Pakur is soley responsible for issuing a contiguous / cluster certificate to the lessee and also the lease should be executed on the basis of correct contiguous / cluster certificate.

Accordingly, Deputy Commissioner, Pakur should take cognizance of memo no. 145, dated 12.07.2024 of SEIAA to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

Accordingly, SEIAA may communicate the above observation of SEAC to Deputy Commissioner, Pakur.

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v. **Deputy Commissioner, Pakur letter no. 469/M, dated 29.03.2025 with regard to M/s Navya Stone Works.**

At the time of consideration of any mining project for grant of EC, cognizance is taken of the contiguous / cluster certificate issued by the DMO of the concerned District. In the certificate, the DMO certifies the number of leases alongwith their respective areas within 500 meters of the mine lease under consideration for grant of EC.

If the total cluster area specified in the above certificate is less than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B2 category as per EIA Notification, 2006 as amended from time to time. If the total cluster area specified in the above certificate is equal to or more than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B1 category as per EIA Notification, 2006 as amended from time to time.

For this project of M/s Navya Stone Works (ML Area 1.157 Ha / 2.86 Acres), Contiguous / Cluster certificate has been issued by DMO, Pakur vide memo no. 1790/M, dated

08.10.2021 **(Copy attached)** stating that there is 02 other mine (4.63 Acres & 2.55 Acre) within 500 meters of the project under consideration. The sum total of the 03 leases is 10.04 Acres / 4.063 Ha. This certificate was issued by DMO, Pakur and handed over directly to the mine lessee vide memo no. 1790/M, dated 08.10.2021. The lessee has uploaded this certificate on the PARIVESH Portal of the MoEF&CC, Govt. of India at the time of applying for EC alongwith all requisite documents. There is no scope of tampering of any uploaded documents on PARIVESH Portal of the MoEF&CC, Govt. of India at the level of SEIAA or any other agency / person.

During time of appraisal of this project before SEAC in the presence of Project Authority, on the basis of this certificate of DMO, presentation was made under the B2 Category.

On the basis of the this certificate of DMO, documents and presentation of the project was made under B2 Category in the presence of Project Authorities (PAs) and after appraisal by SEAC, EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2494/2021/19, dated 16.04.2022. Thus, there is no role or scope of SEIAA / SEAC to make any change or tampering in the certificate / any documents submitted by PAs. It is important to mention that all documents / certificate are uploaded on PARIVESH Portal of the MoEF&CC, Govt. of India.

Subsequently, DMO, Pakur vide letter no. 1106/M, dated 19.07.2024 which is addressed to M/s Navya Stone Works, Partner : Shri Ashish Kumar Dutta, S/o : Shri Bankim Chandra Dutta, Netaji Nagar, Nalhatti, Distt. : Birbhum, (West Bengal) and Tajel Ali, S/o : Late Saiyad Ali, Chhaya Palli, Nalhatti, Distt. : Birbhum, (West Bengal) made it clear that total cluster area of this project is 30.74 Acres (12.44 Ha) and instructed PAs to obtain EC under B1 Category from State Environment Impact Assessment Authority. A copy of above mentioned letter was given to SEIAA vide memo no. 1106/M, dated 19.07.2024 **(Copy attached)** and on the basis of this letter SEIAA came to know that actual cluster area of this project is 30.74 Acres (12.44 Ha).

Further, on the request of DMO, Pakur vide letter / memo no. 1106/M, dated 19.07.2024 the SEIAA issued show cause to PAs by keeping EC on abeyance. The PAs submitted clarification to SEIAA stating that his proposed ML area is 1.157 Ha and cluster certificate issued to him for his lease area was less than 5.00 Ha and he further requested to issue EC under B1 category as directed by DMO, Pakur vide letter no. 1106/M, dated 19.07.2024.

On the basis of memo no. 1106/M, dated 19.07.2024 of DMO, Pakur and show cause reply of PAs, the earlier EC issued to lessee was withdrawn by SEIAA. The lessee submitted a fresh application for consideration of the proposal for EC under B1 category as per direction of the DMO, Pakur vide its memo no. 1106/M, dated 19.07.2024. Accordinglty, the project was further appraised under B1 category and also vide memo no. 180, dated 12.07.2024 the Deputy Commissioner, Pakur and Member Secretary, JSPCB requested to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

The observation of the Committee is :

- As the contiguous / cluster certificate from the DMO, Pakur which was for area 4.063 Ha was uploaded on PARIVESH Portal of MoEF&CC, Govt. of India by PAs. The allegation of the DC, Pakur that the certificate has been Tampered by SEIAA is baseless.
- At the time of execution of lease the DC / DMO should / might have taken in to consideration of the actual cluster area of the leases in the cluster which was available in DMO office. Then mining lease should not have been executed and should not allow the execution of mining operation which has been carried on for years.
- The DMO, Pakur is soley responsible for issuing a contiguous / cluster certificate to the lessee and also the lease should be executed on the basis of correct contiguous / cluster certificate.

Accordingly, Deputy Commissioner, Pakur should take cognizance of memo no. 180, dated 08.08.2024 of SEIAA to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

Accordingly, SEIAA may communicate the above observation of SEAC to Deputy Commissioner, Pakur.

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vi. **Deputy Commissioner, Pakur letter no. 457/M, dated 29.03.2025 with regard to M/s four Star Stone Works.**

At the time of consideration of any mining project for grant of EC, cognizance is taken of the contiguous / cluster certificate issued by the DMO of the concerned District. In the certificate, the DMO certifies the number of leases alongwith their respective areas within 500 meters of the mine lease under consideration for grant of EC.

If the total cluster area specified in the above certificate is less than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B2 category as per EIA Notification, 2006 as amended from time to time. If the total cluster area specified in the above certificate is equal to or more than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B1 category as per EIA Notification, 2006 as amended from time to time.

For this project of M/s Four Star Stone Works (ML Area 2.65 Ha / 6.55 Acres), Contiguous / Cluster certificate has been issued by DMO, Pakur vide memo no. 1247/M,

dated 08.08.2020 (**Copy attached**) stating that there is one other mine (5.01 Acres) within 500 meters of the project under consideration. The sum total of the 02 leases is 11.56 Acres / 4.67 Ha. This certificate was issued by DMO, Pakur and handed over directly to the mine lessee vide memo no. 1247/M, dated 08.08.2020. The lessee has uploaded this certificate on the PARIVESH Portal of the MoEF&CC, Govt. of India at the time of applying for EC alongwith all requisite documents. There is no scope of tampering of any uploaded documents on PARIVESH Portal of the MoEF&CC, Govt. of India at the level of SEIAA or any other agency / person.

During time of appraisal of this project before SEAC in the presence of Project Authority, on the basis of this certificate of DMO, presentation was made under the B2 Category.

On the basis of the this certificate of DMO, documents and presentation of the project was made under B2 Category in the presence of Project Authorities (PAs) and after appraisal by SEAC, EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2414/ 2021/136, dated 23.09.2021. Thus, there is no role or scope of SEIAA / SEAC to make any change or tampering in the certificate / any documents submitted by PAs. It is important to mention that all documents / certificate are uploaded on PARIVESH Portal of the MoEF&CC, Govt. of India.

Subsequently, DMO, Pakur vide letter no. 602/M, dated 13.05.2024 which is addressed to M/s Four Star Stone Works, Prop. : Ahidur Rahman, S/o : Abu Bakkar, Village : Naya Anjana, P.O. : Prithvinagar, Pakur made it clear that total cluster area of this project is 12.36 Acres (5.00 Ha) and instructed PAs to obtain EC under B1 Category from State Environment Impact Assessment Authority. A copy of above mentioned letter was given to SEIAA vide memo no. 602/M, dated 13.05.2024 (**Copy attached**) and on the basis of this letter SEIAA came to know that actual cluster area of this project is 12.36 Acres (5.00 Ha).

Further, on the request of DMO, Pakur vide letter / memo no. 602/M, dated 13.05.2024 the SEIAA issued show cause to PAs by keeping EC on abeyance. The PAs submitted clarification to SEIAA stating that his proposed ML area is 2.65 Ha and cluster certificate issued to him for his lease area was less than 5.00 Ha and he further requested to issue EC under B1 category as directed by DMO, Pakur vide letter no. 602/M, dated 13.05.2024.

On the basis of memo no. 602/M, dated 13.05.2024 of DMO, Pakur and show cause reply of PAs, the earlier EC issued to lessee was withdrawn by SEIAA. The lessee submitted a fresh application for consideration of the proposal for EC under B1 category as per direction of the DMO, Pakur vide its memo no. 602/M, dated 13.05.2024. Accordinglty, the project was further appraised under B1 category and also vide memo no. 151, dated 12.07.2024 to Deputy Commissioner, Pakur and Member Secretary, JSPCB requested to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

The observation of the Committee is :

- As the contiguous / cluster certificate from the DMO, Pakur which was for area 4.67 Ha was uploaded on PARIVESH Portal of MoEF&CC, Govt. of India by PAs. The allegation of the DC, Pakur that the certificate has been tampered by SEIAA is baseless.
- At the time of execution of lease the DC / DMO should / might have taken in to consideration of the actual cluster area of the leases in the cluster which was available in DMO office. Then mining lease should not have been executed and should not allow the execution of mining operation which has been carried on for years.
- The DMO, Pakur is soley responsible for issuing a contiguous / cluster certificate to the lessee and also the lease should be executed on the basis of correct contiguous / cluster certificate.

Accordingly, Deputy Commissioner, Pakur should take cognizance of memo no. 151, dated 12.07.2024 of SEIAA to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

Accordingly, SEIAA may communicate the above observation of SEAC to Deputy Commissioner, Pakur.

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vii. **Deputy Commissioner, Pakur letter no. 461/M, dated 29.03.2025 with regard to M/s Manoj Stone Works.**

At the time of consideration of any mining project for grant of EC, cognizance is taken of the contiguous / cluster certificate issued by the DMO of the concerned District. In the certificate, the DMO certifies the number of leases alongwith their respective areas within 500 meters of the mine lease under consideration for grant of EC.

If the total cluster area specified in the above certificate is less than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B2 category as per EIA Notification, 2006 as amended from time to time. If the total cluster area specified in the above certificate is equal to or more than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B1 category as per EIA Notification, 2006 as amended from time to time.

For this project of M/s Manoj Stone Works (ML Area 2.541 Ha / 6.28 Acres), Contiguous / Cluster certificate has been issued by DMO, Pakur vide memo no. 1691/M, dated

22.09.2020 (**Copy attached**) stating that there is one other mine (6.07 Acres) within 500 meters of the project under consideration. The sum total of the 02 leases is 12.35 Acres / 4.94 Ha. This certificate was issued by DMO, Pakur and handed over directly to the mine lessee vide memo no. 1691/M, dated 22.09.2020. The lessee has uploaded this certificate on the PARIVESH Portal of the MoEF&CC, Govt. of India at the time of applying for EC alongwith all requisite documents. There is no scope of tampering of any uploaded documents on PARIVESH Portal of the MoEF&CC, Govt. of India at the level of SEIAA or any other agency / person.

During time of appraisal of this project before SEAC in the presence of Project Authority, on the basis of this certificate of DMO, presentation was made under the B2 Category.

On the basis of the this certificate of DMO, documents and presentation of the project was made under B2 Category in the presence of Project Authorities (PAs) and after appraisal by SEAC, EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2323/ 2021/45, dated 15.07.2021. Thus, there is no role or scope of SEIAA / SEAC to make any change or tampering in the certificate / any documents submitted by PAs. It is important to mention that all documents / certificate are uploaded on PARIVESH Portal of the MoEF&CC, Govt. of India.

Subsequently, DMO, Pakur vide letter no. 603/M, dated 13.05.2024 which is addressed to M/s Manoj Stone Works, Prop. : Shri Manoj Kumar Gond, S/o : Shri Shyam Lal Gond, Village : Saharkela, Gokulpur, Pakur made it clear that total cluster area of this project is 13.25 Acres (5.36 Ha) and instructed PAs to obtain EC under B1 Category from State Environment Impact Assessment Authority. A copy of above mentioned letter was given to SEIAA vide memo no. 603/M, dated 13.05.2024 (**Copy attached**) and on the basis of this letter SEIAA came to know that actual cluster area of this project is 13.25 Acres (5.36 Ha).

Further, on the request of DMO, Pakur vide letter / memo no. 603/M, dated 13.05.2024 the SEIAA issued show cause to PAs by keeping EC on abeyance. The PAs submitted clarification to SEIAA stating that his proposed ML area is 2.541 Ha and cluster certificate issued to him for his lease area was less than 5.00 Ha and he further requested to issue EC under B1 category as directed by DMO, Pakur vide letter no. 603/M, dated 13.05.2024.

On the basis of memo no. 603/M, dated 13.05.2024 of DMO, Pakur and show cause reply of PAs, the earlier EC issued to lessee was withdrawn by SEIAA. The lessee submitted a fresh application for consideration of the proposal for EC under B1 category as per direction of the DMO, Pakur vide its memo no. 603/M, dated 13.05.2024. Accordinglty, the project was further appraised under B1 category and also vide memo no. 148, dated 12.07.2024 to Deputy Commissioner, Pakur and Member Secretary, JSPCB requested to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

The observation of the Committee is :

- As the contiguous / cluster certificate from the DMO, Pakur which was for area 4.94 Ha was uploaded on PARIVESH Portal of MoEF&CC, Govt. of India by PAs. The allegation of the DC, Pakur that the certificate has been tampered by SEIAA is baseless.
- At the time of execution of lease the DC / DMO should / might have taken in to consideration of the actual cluster area of the leases in the cluster which was available in DMO office. Then mining lease should not have been executed and should not allow the execution of mining operation which has been carried on for years.
- The DMO, Pakur is soley responsible for issuing a contiguous / cluster certificate to the lessee and also the lease should be executed on the basis of correct contiguous / cluster certificate.

Accordingly, Deputy Commissioner, Pakur should take cognizance of memo no. 148, dated 12.07.2024 of SEIAA to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

Accordingly, SEIAA may communicate the above observation of SEAC to Deputy Commissioner, Pakur.

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viii. **Deputy Commissioner, Pakur letter no. 459/M, dated 29.03.2025 with regard to M/s Cee Bee Stone Works.**

At the time of consideration of any mining project for grant of EC, cognizance is taken of the contiguous / cluster certificate issued by the DMO of the concerned District. In the certificate, the DMO certifies the number of leases alongwith their respective areas within 500 meters of the mine lease under consideration for grant of EC.

If the total cluster area specified in the above certificate is less than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B2 category as per EIA Notification, 2006 as amended from time to time. If the total cluster area specified in the above certificate is equal to or more than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B1 category as per EIA Notification, 2006 as amended from time to time.

For this project of M/s Cee Bee Stone Works (ML Area 2.73 Ha / 6.75 Acres), Contiguous / Cluster certificate has been issued by DMO, Pakur vide memo no. 996/M, dated

01.07.2021 (**Copy attached**) stating that there is no other mine within 500 meters of the project under consideration. This certificate was issued by DMO, Pakur and handed over directly to the mine lessee vide memo no. 996/M, dated 01.07.2021. The lessee has uploaded this certificate on the PARIVESH Portal of the MoEF&CC, Govt. of India at the time of applying for EC alongwith all requisite documents. There is no scope of tampering of any uploaded documents on PARIVESH Portal of the MoEF&CC, Govt. of India at the level of SEIAA or any other agency / person.

During time of appraisal of this project before SEAC in the presence of Project Authority, on the basis of this certificate of DMO, presentation was made under the B2 Category.

On the basis of the this certificate of DMO, documents and presentation of the project was made under B2 Category in the presence of Project Authorities (PAs) and after appraisal by SEAC, EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2446/2021/188, dated 30.10.2021. Thus, there is no role or scope of SEIAA / SEAC to make any change or tampering in the certificate / any documents submitted by PAs. It is important to mention that all documents / certificate are uploaded on PARIVESH Portal of the MoEF&CC, Govt. of India.

Subsequently, DMO, Pakur vide letter no. 607/M, dated 13.05.2024 which is addressed to M/s Cee Bee Stone Works, Partner : Shri Jitendra Kumar Belani, S/o : Late Parshuram Belani, Sindhipara, Pakur made it clear that total cluster area of this project is 13.03 Acres (5.27 Ha) and instructed PAs to obtain EC under B1 Category from State Environment Impact Assessment Authority. A copy of above mentioned letter was given to SEIAA vide memo no. 607/M, dated 13.05.2024 (**Copy attached**) and on the basis of this letter SEIAA came to know that actual cluster area of this project is 13.03 Acres (5.27 Ha)

Further, on the request of DMO, Pakur vide letter / memo no. 607/M, dated 13.05.2024 the SEIAA issued show cause to PAs by keeping EC on abeyance. The PAs submitted clarification to SEIAA stating that his proposed ML area is 2.73 Ha and cluster certificate issued to him for his lease area was less than 5.00 Ha and he further requested to issue EC under B1 category as directed by DMO, Pakur vide letter no. 607/M, dated 13.05.2024.

On the basis of memo no. 607/M, dated 13.05.2024 of DMO, Pakur and show cause reply of PAs, the earlier EC issued to lessee was withdrawn by SEIAA. The lessee submitted a fresh application for consideration of the proposal for EC under B1 category as per direction of the DMO, Pakur vide its memo no. 607/M, dated 13.05.2024. Accordinglty, the project was further appraised under B1 category and also vide memo no. 147, dated 12.07.2024 to Deputy Commissioner, Pakur and Member Secretary, JSPCB requested to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

The observation of the Committee is :

- As the contiguous / cluster certificate from the DMO, Pakur which was for area 2.73 Ha was uploaded on PARIVESH Portal of MoEF&CC, Govt. of India by PAs. The allegation of the DC, Pakur that the certificate has been tampered by SEIAA is baseless.
- At the time of execution of lease the DC / DMO should / might have taken in to consideration of the actual cluster area of the leases in the cluster which was available in DMO office. Then mining lease should not have been executed and should not allow the execution of mining operation which has been carried on for years.
- The DMO, Pakur is soley responsible for issuing a contiguous / cluster certificate to the lessee and also the lease should be executed on the basis of correct contiguous / cluster certificate.

Accordingly, Deputy Commissioner, Pakur should take cognizance of mem no. 147, dated 12.07.2024 of SEIAA to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

Accordingly, SEIAA may communicate the above observation of SEAC to Deputy Commissioner, Pakur.

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ix. **Deputy Commissioner, Pakur letter no. 465/M, dated 29.03.2025 with regard to M/s Jishan Stone Works..**

At the time of consideration of any mining project for grant of EC, cognizance is taken of the contiguous / cluster certificate issued by the DMO of the concerned District. In the certificate, the DMO certifies the number of leases alongwith their respective areas within 500 meters of the mine lease under consideration for grant of EC.

If the total cluster area specified in the above certificate is less than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B2 category as per EIA Notification, 2006 as amended from time to time. If the total cluster area specified in the above certificate is equal to or more than 5.00 hectare (including the area of the mine lease under consideration for EC), the project is appraised under B1 category as per EIA Notification, 2006 as amended from time to time.

For this project of M/s Jishan Stone Works (ML Area 1.05 Ha / 2.60 Acres), Contiguous / Cluster certificate has been issued by DMO, Pakur vide memo no. 1060/M, dated

06.07.2021 (**Copy attached**) stating that there is one other mine (4.20 Acres) within 500 meters of the project under consideration. The sum total of the 02 leases is 6.80 Acres / 2.75 Ha. This certificate was issued by DMO, Pakur and handed over directly to the mine lessee vide memo no. 1060/M, dated 06.07.2021. The lessee has uploaded this certificate on the PARIVESH Portal of the MoEF&CC, Govt. of India at the time of applying for EC alongwith all requisite documents. There is no scope of tampering of any uploaded documents on PARIVESH Portal of the MoEF&CC, Govt. of India at the level of SEIAA or any other agency / person.

During time of appraisal of this project before SEAC in the presence of Project Authority, on the basis of this certificate of DMO, presentation was made under the B2 Category.

On the basis of the this certificate of DMO, documents and presentation of the project was made under B2 Category in the presence of Project Authorities (PAs) and after appraisal by SEAC, EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2433/2021 /132, dated 23.09.2021. Thus, there is no role or scope of SEIAA / SEAC to make any change or tampering in the certificate / any documents submitted by PAs. It is important to mention that all documents / certificate are uploaded on PARIVESH Portal of the MoEF&CC, Govt. of India.

Subsequently, DMO, Pakur vide letter no. 601/M, dated 13.05.2024 which is addressed to M/s Jishan Stone Works, Prop. : Jiyaul Rahman, S/o : Jakim Shekh, Village : Jaikistopur, Post : Manirampur, Distt. : Pakur made it clear that total cluster area of this project is 13.35 Acres (5.40 Ha) and instructed PAs to obtain EC under B1 Category from State Environment Impact Assessment Authority. A copy of above mentioned letter was given to SEIAA vide memo no. 601/M, dated 13.05.2024 (**Copy attached**) and on the basis of this letter SEIAA came to know that actual cluster area of this project is 13.35 Acres (5.40 Ha)

Further, on the request of DMO, Pakur vide letter / memo no. 601/M, dated 13.05.2024 the SEIAA issued show cause to PAs by keeping EC on abeyance. The PAs submitted clarification to SEIAA stating that his proposed ML Area is 1.05 Ha and cluster certificate issued to him for his lease area was less than 5.00 Ha and he further requested to issue EC under B1 category as directed by DMO, Pakur vide letter no. 601/M, dated 13.05.2024.

On the basis of memo no. 601/M, dated 13.05.2024 of DMO, Pakur and show cause reply of PAs, the earlier EC issued to lessee was withdrawn by SEIAA. The lessee submitted a fresh application for consideration of the proposal for EC under B1 category as per direction of the DMO, Pakur vide its memo no. 601/M, dated 13.05.2024. Accordinglty, the project was further appraised under B1 category and also vide memo no. 149, dated 12.07.2024 to Deputy Commissioner, Pakur and Member Secretary, JSPCB requested to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

The observation of the Committee is :

- As the contiguous / cluster certificate from the DMO, Pakur which was for area 2.75 Ha was uploaded on PARIVESH Portal of MoEF&CC, Govt. of India by PAs. The allegation of the DC, Pakur that the certificate has been tampered by SEIAA is baseless.
- At the time of execution of lease the DC / DMO should / might have taken in to consideration of the actual cluster area of the leases in the cluster which was available in DMO office. Then mining lease should not have been executed and should not allow the execution of mining operation which has been carried on for years.
- The DMO, Pakur is soley responsible for issuing a contiguous / cluster certificate to the lessee and also the lease should be executed on the basis of correct contiguous / cluster certificate.

Accordingly, Deputy Commissioner, Pakur should take cognizance of memo no. 149, dated 12.07.2024 of SEIAA to take appropriate action against the project proponent / erring officials under the relevant Acts and Rules.

Accordingly, SEIAA may communicate the above observation of SEAC to Deputy Commissioner, Pakur.

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B. Corrigendum EC for :

i. Stone Mine of M/s Maa Durga Stone Works, Mouza : Dalabari, Sub Division : Rajmahal, Distt. : Sahibganj, Jharkhand (2.428 Ha)

(Proposal no. SIA / JH/MIN/ 518644 /2025)

The PA's vide online application no. SIA / JH/MIN/ 518644 /2025 has requested for necessary correction in Environmental Clearance issued vide letter no. EC/SEIAA/2021-22/2372 /2021/115, dated 14.08.2021 with regard to name of the lessee as it was erronously provided by PAs, the revised details is being given below :.

Project Proponent : M/s Maa Durga Stone Works
Shri Bishnu Prasad Yadav,
At – Jay Prakash Chowk, Nayatola, Sakrogarh,
Distt. : Sahibganj, Jharkhand.

The SEAC considered the same and recommends for issuance of corrigendum EC with corrected details as stated above. Other terms & conditions mentioned in the previous EC letter no. EC/SEIAA/2021-22/2372 /2021/115, dated 14.08.2021 shall remain the same.

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ii. **Balko Stone Deposit of M/s Vidyarthi Stone Works (Prop. : Shri Prashant Kumar Panday), Village : Balko, Thana : Taljhari, Distt. : Sahibganj, Jharkhand (2.430 Ha).**

(Proposal no.: SIA/JH/MIN/ 536000 /2025)

The PA's vide online application no. SIA/JH/MIN/ 536000 /2025 has requested for necessary correction in Environmental Clearance issued vide letter no. EC/SEIAA/2024-25/3599 /2024/12, dated 15.04.2025 with regard to **Life of Mine** as it was erronously provided by PAs, the revised details is being given below :.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 74,480Cum. / annum or 2,01,096 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Balko Stone Deposit	
2	Lessee:	:	M/S Vidyarthi Stone Works, Proprietor: Sri Prashant Kumar Pandey	
3	Lessee Address	:	M/S Vidyarthi Stone Works Sri Prashant Kumar Pandey, Netaji Subhash Colony, Thana-Jirwabari, P.O. + Dist.- Sahibganj, Jharkhand	
4	Lease Area	:	2.430 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 114.4 Lakhs	Recurring Cost: Rs. 11.7 Lakhs/Year
7	EMP Budget	:	Capital Cost: Rs. 7.90 Lakhs	Recurring Cost: Rs. 5.77 Lakhs/Year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 5346988.02	Tonnes: 18,88,271
10	Mine Life	:	10 years.	
11	Man power	:	18Person	
12	Water	:	4.75 KLD	

	Requirement		(Drinking: 0.270 KLD, Dust Suppression: 1.068 KLD, Plantation: 3.414 KLD)
13	Water Source	:	From Nearby villages by tankers
14	DG Set / power	:	Nil 20 KVA D.G. Set proposed
15	Crusher	:	Yes (200 TPH)
16	Nearest Water Body	:	River Ganga is Flowing west to east – 9 Km in east direction
17	Nearest Habitation	:	Balko Village – 0.441 km in NW Direction
18	Nearest Rail Station	:	KaliyanChak Railway Station at aerial distance of 4 km from area.
19	Nearest Air Port	:	Deoghar Airport, Deoghat is at areal distance of 120.21 km SW direction.
20	Nearest Forest	:	DFO (Sahibganj), letter no.- 2452 Dated: 01.10.2024 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
21	Road & Highways	:	The distance of apporoach road is 0.267 km, after that this road connects to NH-33 Sahibganj-Barhawaroad at distance 8.3 km away from the applied lease area in eastern side.

CO-ORDINATES

Point ID	Latitude	Longitude
1	25° 2'51.25"N	87°41'57.08"E
2	25° 2'53.68"N	87°41'57.35"E
3	25° 2'53.76"N	87°41'59.31"E
4	25° 2'53.01"N	87°42'2.86"E
5	25° 2'52.70"N	87°42'2.80"E
6	25° 2'50.87"N	87°42'4.05"E
7	25° 2'49.01"N	87°42'5.31"E
8	25° 2'48.38"N	87°42'4.37"E
9	25° 2'48.77"N	87°42'3.86"E
10	25° 2'48.37"N	87°42'1.84"E
11	25° 2'48.29"N	87°42'0.45"E
12	25° 2'48.55"N	87°41'59.59"E
13	25° 2'48.95"N	87°41'58.98"E
14	25° 2'51.07"N	87°42'0.00"E

LAND DETAILS

Khata no.	Plot no.
05	82 (P)
01	83
15	84 (P) & 85 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1377/M, dated 13.12.2024.
2	CO	:	The CO, Taljhari vide letter no. 577, dated 12.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster & Grid certificate	:	DMO, Sahibganj vide memo no. 357/M, dated 20.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also certified that the proposed project site is outside of Redzone Grid 1,3,4 & 7.
4	DFO Wild Life	:	DFO – cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2453, dated 01.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 2452, dated 01.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has been certified vide memo no. 514/M, dated 20.03.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 192).
7	Gram Sabha	:	Gram Sabha conducted on 07.09.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Memo No. 358/M, dated 20.02.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method

2	Quarry Area	:	0.966 Ha	Life of Mine – 10year
3	Waste Generation	:	19154 cum	
4	Stripping Ratio	:	24:05	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	176m AMSL to 128m AMSL	
8	Ground Level Elevation	:	128m AMSL	
9	Ultimate Working Depth	:	109m AMSL	
10	Water Table	:	Post Monsoon –12.34m AMSL Pre Monsoon -15.55m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	14.17 kg Nitro mix explosives /day	
13	Diesel/Fuel requirement	:	HSD – 246 liters / day (73.8 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of Overburden	Intercalated Waste	Total Waste
	Cum	T.F.	Tonnes	Cum	Cum	Cum
1st	71594	2.7	193304	7154	3768	10922
2nd	72246	2.7	195063	4704	3802	8506
3rd	72432	2.7	195566	2352	3812	6164
4th	73177	2.7	197577	784	3851	4635
5th	74480	2.7	201096	0	3920	3920
Total	**363928**		**982605**	**14994**	**19154**	**34148**

Land Use pattern

SL. No.	Existing	Hect
1	Quarry	Nil
2	Road	Nil
3	WasteDump	Nil
4	S.Z.Plantation	Nil

5	**Total AreainUse**	**0.000**
6	Unusedarea	**2.430**
TotalAppliedArea		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone,Dumping Area, Unutilized Area, and Office Area.		0.489 Ha	782
2	Along Approach Road		0.267km	356
TOTAL				**1138**

The SEAC considered the same and recommends for issuance of corrigendum EC with corrected details as stated above. Other terms & conditions mentioned in the previous EC letter no. EC/SEIAA/2024-25/3599 /2024/12, dated 15.04.2025 shall remain the same.

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iii. **Mirapara Stone Mine of M/s Vidyarthi Stone Works (Prop. : Shri Prashant Pandey), Village : Mirapara, Thana : Borio, Distt. : Sahibganj, Jharkhand (2.468 Ha).**

(Proposal no.: SIA/JH/MIN/ 535999 /2025)

The PA's vide online application no. SIA/JH/MIN/ 535999 /2025 has requested for necessary correction in Environmental Clearance issued vide letter no. EC/SEIAA/2024-25/3654 /2024/47, dated 16.04.2025 with regard to **Life of mine** and **Proposed production** as it was erronously provided by PAs, the revised details is being given below :.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC application for : Proposed Capacity- 74,532 Cum (Max.) / 2,01,237 Tons (Max.)

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Mirapara Stone Mine Project Type – Black Stone Mine	
2	Lessee:	:	M/S Vidyarthi Stone Works Prop: - Prashant Pandey	
3	Lease Address	:	M/S Vidyarthi stone Works PROP: - Prashant Pandey VILL- Mirapara, Thana- Borio, Dist- Sahibganj, Jharkhand	
4	Lease Area	:	2.468 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost	:	Capital Cost: Rs.136.84 Lakhs	Recurring Cost: Rs 5.02Lakhs
7	EMP Budget	:	Capital Cost: Rs. 9.190 Lakhs	Recurring Cost: Rs. 5.801 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	1928354 Tons	
10	Mine Life	:	10 years.	
11	Man power	:	32Person	
12	Water Requirement	:	6.44 KLD (Drinking: 0.300 KLD, Dust Suppression: 1.988 KLD, Plantation: 4.152 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	Nil 20 KVA D.G. Set proposed	
15	Crusher	:	Yes (200 TPH)	
16	Nearest Water Body	:	River Ganga is Flowing west to east – 5.26 Km in east direction	
17	Nearest Habitation	:	Gilamari Village – 0.5 Km	
18	Nearest Rail Station	:	Sahibganj Railway Station at areal distance of 11 Km from applied area.	
19	Nearest Air Port	:	Deoghar Airport is at areal distance of 123.84 Km SW direction away from applied area.	
20	Nearest Forest	:	DFO (Sahibganj), letter no.- 2452 Dated: 01.10.2024 certified that the distance of reserved / protected forest is more than 250 m from proposed project site..	
21	Road & Highways	:	The distance of Approach Road is 437 m, after that this road connects to NH-33 at 2.8 Km from the mine site in north direction.	

CO-ORDINATES

Latitude	Longitude
25° 12' 23.72597640" N	087° 41' 23.79355080" E
25° 12' 25.20380160" N	087° 41' 23.87136480" E
25° 12' 26.54872920" N	087° 41' 23.98534800" E
25° 12' 26.30619360" N	087° 41' 26.65059000" E
25° 12' 26.21531880" N	087° 41' 29.77949040" E
25° 12' 25.82473320" N	087° 41' 32.55192960" E
25° 12' 24.22570320" N	087° 41' 31.91909280" E
25° 12' 22.27740120" N	087° 41' 31.40927520" E
25° 12' 22.85020800" N	087° 41' 25.10784960" E
25° 12' 23.35792320" N	087° 41' 24.39537000" E

LAND DETAILS

Khata no.	Plot no.
22 & 04	12 (P) & 17 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 228/M, dated 08.02.2025.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 706/Ra, dated 20.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster & Grid certificate	:	DMO, Sahibganj vide memo no. 355/M, dated 20.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also certified that the proposed project site is outside of Redzone Grid 1,3,4 & 7.
4	DFO Wild Life	:	DFO – cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2455, dated 01.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 2454, dated 01.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has been certified vide memo no. 511/M, dated 20.03.2025 that this project is mentioned in approved DSR

			of Sahibganj District as a potential area (Page no. 181).
7	Gram Sabha	:	Gram Sabha conducted on 23.07.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Memo No. 356/M, dated 20.02.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	0.472Ha. (During plan period)	Life of Mine – 10 year
3	Waste Generation	:	25670 cum. O.B (During plan period)	
4	Stripping Ratio	:	11:10	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	180 to 135 m AMSL	
8	Ground Level Elevation	:	135m AMSL	
9	Ultimate Working Depth	:	120 m	
10	Water Table	:	(During pre-monsoon 16.91m AMSL) (During post-monsoon 14.19 m AMSL)	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	42.53 kg/day slurry explosives	
13	Diesel/Fuel requirement	:	HSD – 245.58 liters / day (73.67 KL/year)	

Production Details

Years	Production of Cum/Year stone in	Production of Stone in Tones/Year	Overburden in Cum	Intercalated Waste In Cum	Total Waste in Cum
1st	71222	192298	23460	3749	**27209**
2nd	71383	192734	2210	3757	**5967**
3rd	72514	195786	0	3817	**3817**

4th	73563	198621	0	3872	**3872**
5th	74532	201237	0	3923	**3923**
Total	**363214**	**980676**	**25670**	**19117**	**44787**

LAND USE

Land Utilization	Existing Land Use (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	0	1.365	1.996 (0.210 ha) area shall be backfilled. 0.989 ha area shall be left as water reservoir & 0.798 ha left as dead benches
Waste Dump	0	0.286	0
Road	0	0.010	0
Crusher	0	0.201	0
S.Z. Plantation	0	0.472	0.472
Total	0.00	2.334	2.334
Unused Area	**2.468**	**0.134**	**0**
Total Lease Area	**2.468**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.472 Ha	755
2	Along Approach Road		0.437km	584
TOTAL				**1339**

The SEAC considered the same and recommends for issuance of corrigendum EC with corrected details as stated above. Other terms & conditions mentioned in the previous EC letter no. EC/SEIAA/2024-25/3654 /2024/47, dated 16.04.2025 shall remain the same.

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iv. **Bekchuri Stone Mine of Shri Subrato Paul, Village : Bekchuri, Thana : Taljhari, Distt. : Sahibganj, Jharkhand (2.913 Ha).**

(Proposal no.: SIA/JH/MIN/ 536005 /2025)

The PA's vide online application no. SIA/JH/MIN/ 536005 /2025 has requested for necessary correction in Environmental Clearance issued vide letter no. EC/SEIAA/2024-25/3601 /2024/60, dated 16.04.2025 with regard to **Life of Mine** and **Production figure** as it was erronously provided by PAs, the revised details is being given below :.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

Proposed Capacity- 89,538 Cum /year (Max.) and 2,50,705 Tons / year.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bekchuri Stone Mine Project Type – Stone Mine	
2	Lessee:	:	Prop.-ShriSubratoPaul	
3	Lessee Address	:	M/S Maa Ambika Traders Prop.- Shri Subrato Paul S/o Jitendra Nath Paul R/o Main Road near Bus stand, PO+PS- Barharwa, Dist- Sahebganj (Jharkhand).	
4	Lease Area	:	2.913 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs 101.65 Lakhs	Recurring Cost: Rs 22.8Lakhs
7	EMP Budget	:	Capital Cost: Rs. 8.90 Lakhs	Recurring Cost: Rs. .6.14 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	2093364Tons &747630Cum	
10	Mine Life	:	10 years.	
11	Man power	:	27 Person	
12	Water Requirement	:	6.6 KLD (Drinking: 0.405 KLD, Dust Suppression: 1.94 KLD, Plantation: 4.254 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	Nil 20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	

16	Nearest Water Body	:	River Ganga –8.60 Km in North -West direction
17	Nearest Habitation	:	Bekchuri Village – 0.700 km
18	Nearest Rail Station	:	Kalian Chak Railway stationis at 4.08 km (Aerial distance)in South - East Direction.
19	Nearest Air Port	:	Deoghar , Airport at 118 km in (South – west) .
20	Nearest Forest	:	DFO (Sahibganj), letter no.- 2397 Dated: 28.09.2024 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
21	Road & Highways	:	The distance of Approach Road is 433 m, after that, this road connects to village road. The village road continues for 5.5 km and after this the road connects to MDR Rajmahal – Tinpahar – Borio Road.

CO-ORDINATES

PointName	Latitude	Longitude
1	25°03'17.43875839"N	087°42'09.68106585"E
2	25°03'18.46203196"N	087°42'08.66448237"E
3	25°03'19.48530366"N	087°42'07.64789421"E
4	25°03'20.48202178"N	087°42'08.58180281"E
5	25°03'21.48554142"N	087°42'09.52209023"E
6	25°03'22.48905927"N	087°42'10.46238193"E
7	25°03'21.62382539"N	087°42'11.72589678"E
8	25°03'20.59312373"N	087°42'13.23103485"E
9	25°03'19.38104428"N	087°42'15.00102296"E
10	25°03'18.47320987"N	087°42'16.32671310"E
11	25°03'17.56537227"N	087°42'17.65239777"E
12	25°03'17.15511809"N	087°42'16.64447415"E
13	25°03'16.74486196"N	087°42'15.63655236"E
14	25°03'16.35393354"N	087°42'14.67612123"E
15	25°03'15.92434387"N	087°42'13.62071425"E
16	25°03'16.45445588"N	087°42'13.05859869"E
17	25°03'16.98456732"N	087°42'12.49648178"E

18	25°03'16.05805145"N	087°42'12.19456146"E
19	25°03'15.13153534"N	087°42'11.89264245"E
20	25°03'16.37227090"N	087°42'10.70334577"E

LAND DETAILS

Khata no.	Plot no.
01	5 (P), 6 (P), 123 (P), 124 (P), 125 (P), 126 (P) & 127 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1368/M, dated 12.12.2024.
2	CO	:	The CO, Taljhari vide letter no. 454, dated 16.07.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Sahibganj vide memo no. 1379/M, dated 13.12.2024 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO – cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1951, dated 23.08.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1952, dated 23.08.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has been certified vide memo no. 404/M, dated 04.03.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 200).
7	Gram Sabha	:	Gram Sabha conducted on 10.07.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 89, dated 15.01.2025.
9	Grid certificate	:	DMO, Sahibganj vide memo no. 202, dated 07.02.2025 certified that the proposed project site is outside of Redzone Grid 1,3,4 & 7.

10	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.124 Ha. (During plan period)	Life of Mine – 10 year
3	Waste Generation	:	67080cum. O.B (During plan period)	
4	Stripping Ratio	:	47:20	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	251 to 182 m AMSL	
8	Ground Level Elevation	:	182 m AMSL	
9	Ultimate Working Depth	:	158 m	
10	Water Table	:	(During pre-monsoon 16.13m AMSL) (During post-monsoon 10.40 m AMSL)	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	88.704 kg Nitro mix explosives	
13	Diesel/Fuel requirement	:	HSD–343liters/day(102.9 KL/year)	

Production Details

Year	Production of Stone / Year			Per Day Production		Removal of O.B.	
	Cum	T.F.	Tonnes	Cum	Tonnes	Cum	Production per day cum (O.B.
1st	89538	2.8	250705	298	836	28600	95
2nd	89291	2.8	250013	298	833	18070	60
3rd	84845	2.8	237565	283	792	4810	16
4th	70642	2.8	197798	235	659	13390	45
5th	68790	2.8	192611	229	642	2210	7
Total	**403104**		**1128691**	**298 (Max)**	**836 (Max)**	**67080**	**95(Max)**

LAND USE

Existing, Proposed & Conceptual Land Use

SL. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Existing Land Use (Ha)
1	Mining Activities	-	-	0.000
2	Offices/ Store etc.	-	-	0.000
3	Dumping	-	-	0.000
4	Mining Road	-	-	0.000
5	Garland drain	-	-	0.000
6	Settling Tank	-	-	0.000
7	Green belt	-	-	0.000
8	Safety Zone	-	-	0.000
9	Stone Stock yards	-	-	0.000
10	Unutilized	-	-	2.124
11	Crusher (Mobile Crusher)	-	-	0.000
Total			-	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.524 Ha	838
2	Along Approach Road		0.433km	580
TOTAL				**1418**

The SEAC considered the same and recommends for issuance of corrigendum EC with corrected details as stated above. Other terms & conditions mentioned in the previous EC letter no. EC/SEIAA/2024-25/3601 /2024/60, dated 16.04.2025 shall remain the same.

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v. **Manjhladih Stone Mine of Shri Saradindu Mal, Village : Manjhladih, Thana : Shikaripara, Distt. : Dumka, Jharkhand (2.99 Ha).**

(Proposal no.: SIA/JH/MIN/ 531472 /2025)

The PA's vide online application no. SIA/JH/MIN/ 531472 /2025 has requested for necessary correction in Environmental Clearance issued vide letter no. EC/SEIAA/2024-25/3498 /2024/553, dated 31.01.2025 with regard to **Production Figure** as it was erronously provided by PAs, the revised details is being given below :.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 85673 Cum. (Max.) / 231317 Tons (max.) per year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Manjhladih Stone Mine	
2	Lessee:	:	Shri Saradindu Mal	
3	Lessee Address	:	S/o Kanai Mal Ward- 0016, Vidyasagar pally, Rampurhat, Chakla math, Rampurhat M, Birbhum, WB 731224.	
4	Lease Area	:	2.99 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 130.19 Lakhs	Recurring Cost: Rs. 17.85 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 7.89 Lakhs	Recurring Cost: Rs. 5.82 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	319451 cum	862517tons
10	Mine Life	:	5 years.	
11	Man power	:	24 Person	
12	Water Requirement	:	6.28 KLD Drinking: 0.36 KLD Dust Suppression: 0.880 KLD Plantation: 5.04 KLD	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water	:	Brahamani river at 6 km N direction	

	Body		
17	Nearest Habitation	:	Manjhladih Village – 0.600 Km in W Direction
18	Nearest Rail Station	:	Pakdaha Harinsing Railway Station at areal distance of 4.7 km in NW direction
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 92.65 km NW direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer Dumka. letter no.- 1119 Dated- 18/04/2023.
21	Road & Highways	:	The distance of Approach Road is 0.22 Km, after that this road connects to village road. The village road continues for 2.94 km and after this the road connects to NH 114A.

CO-ORDINATES

Point Name	Latitude	Longitude
1	24°11'51.31"N	87°34'41.09"E
To		
2	24°11'48.70"N	87°34'49.82"E

LAND DETAILS

Khata no.	Plot no.
03	1358
06	1292 (P), 1293, 1355 (P) & 1360 (P)
16	1366 (P)
20	1289 (P)
21	1367 (P)
30	1357 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 973/M, dated 17.08.2024.
2	CO	:	The CO, Shikaripara vide letter no. 578/Ra., dated 28.04.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dumka vide memo no. 510/M, dated 08.04.2023 certified that 01 other mining lease area (4.04 Acre) exists within 500 meters radius from proposed project site and total area is 11.43

			Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 565, dated 23.03.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 1119, dated 18.04.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka vide letter no. 29/M, dated 07.01.2025 clarified that the details mentioned in Sl. No. 55, Page no. 328 (Hindi version) of approved DSR to be considered as correct details.
7	Gram Sabha	:	Gram Sabha conducted on 05.04.2022.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 1276/M, dated 13.11.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	0.655 Ha	Life of Mine – 5year
3	Waste Generation	:	39232 cum	
4	Stripping Ratio	:	33:50	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	138 mAMSL–127mAMSL	
8	Ground Level Elevation	:	138 m RL	
9	Ultimate Working Depth	:	36 m	
10	Water Table	:	Post Monsoon – 76 mbgl Pre Monsoon – 80 mbgl	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	74.84 kg Slurry explosives/day	
13	Diesel/Fuel	:	HSD – 315 liters / day (94.5 KL/year)	

	requirement		

Production Details :

Year	Production of Stone / Year			Per Day Production		Removal of O.B.	
	Cum	T.F.	Tonnes	Cum	Tonnes	Cum	Production per day cum (O.B.
1st	69096	2.7	186560	230	622	39232	131
2nd	85673	2.7	231317	286	771	0	0
3rd	64801	2.7	174964	216	583	0	0
4th	49578	2.7	133860	165	446	0	0
5th	50303	2.7	135817	168	453	0	0
Total	319451		862517	286 (max)	771 (max)	39232	131

Land Use

EXISTING, PROPOSED & CONCEPTUAL LAND USE

Sl. No.	Pattern of Utilization	Present/ Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Activities	0.000	1.934	1.934	Water body
2	Offices/ Store etc.	0.000	0.015	0.015	Plantation
3	Dumping	0.000	0.098	0.098	Plantation
4	Mining Road	0.000	0.000	0.051	-
5	Garland drain	0.000	0.051	0.051	-
6	Safety Zone	0.000	0.868	0.868	Plantation
3	Stone Stock Yards	0.000	0.000	0.000	-
4	Unutilized	2.990	0.005	0.005	Greenbelt
Total		2.990	2.990	2.990	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.868 Ha	1389
2	Along Approach Road		220 m	146
TOTAL				**1681**

The SEAC considered the same and recommends for issuance of corrigendum EC with corrected details as stated above. Other terms & conditions mentioned in the previous EC letter no. EC/SEIAA/2024-25/3498 /2024/553, dated 31.01.2025 shall remain the same.

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vi. Barmasia Stone Mine of Md. Abdussalam Ansari, Village : Barmasia, Thana : Shikaripara, Distt. : Dumka, Jharkhand (1.50 Ha).

(Proposal no.: SIA/JH/MIN/ 531878 /2025)

The PA's vide online application no. SIA/JH/MIN/ 531878 /2025 has requested for necessary correction in Environmental Clearance issued vide letter no. EC/SEIAA/2024-25/3356 /2024/447, dated 03.01.2025 with regard to **Production figure** as it was erronously provided by PAs, the revised details is being given below :.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity : 20,064 Cum. / annum or 54,173 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Baramasia Stone Mine	
2	Lessee:	:	Proprietor- Md Abdussalam Ansari	
3	Lessee Address	:	Vill – Kalakata, P.O. – Patjor, Thana – Raneswar, Dist – Dumka, Jharkhand.	
4	Lease Area	:	1.50 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 101.59 Lakhs	Recurring Cost: Rs. 9.47 Lakhs

7	EMP Budget	:	Capital Cost: Rs. 6.66Lakhs	Recurring Cost: Rs. 5.69 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 261144 cum	Tonnes: 705088 tons
10	Mine Life	:	5 years.	
11	Man power	:	28 Person	
12	Water Requirement	:	4.136KLD (Drinking: 0.420 KLD, Dust Suppression: 0.440 KLD, Plantation: 3.276 KLD	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Brahmani River – 7.95 Km in North direction	
17	Nearest Habitation	:	HathbariVillage ~~0.430 Km~~ in NE Direction	
18	Nearest Rail Station	:	Pinargaria Railway Station at aerial distance of 2.48 km in NE direction.	
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 98 km NW direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer . letter no.- 1792 Dated- 05/08/23	
21	Road & Highways	:	The distance of Approach Road is 0.10 km, after that this road connects to SH 114A (Dumka-Shikaripara) at a distance of 2km North Direction.	

CO-ORDINATES

Point ID	Latitude	Longitude
1	24° 11' 23.70917163" N	087° 37' 47.18181449" E
2	24° 11' 24.47844461" N	087° 37' 47.07784303" E
3	24° 11' 24.36252685" N	087° 37' 47.60155111" E
4	24° 11' 24.57328640" N	087° 37' 47.63620826" E
5	24° 11' 25.40227303" N	087° 37' 47.52068442" E
6	24° 11' 25.63410800" N	087° 37' 48.03669091" E
7	24° 11' 25.55682969" N	087° 37' 48.46797992" E
8	24° 11' 25.38119711" N	087° 37' 49.42682780" E
9	24° 11' 25.16692528" N	087° 37' 49.94668508" E
10	24° 11' 24.96783681" N	087° 37' 50.34161980" E
11	24° 11' 24.88998757" N	087° 37' 50.22948744" E
12	24° 11' 24.18745584" N	087° 37' 49.89061751" E

13	24° 11' 24.03233669" N	087° 37' 50.19313594" E
14	24° 11' 23.62486766" N	087° 37' 50.87857739" E
15	24° 11' 23.64243099" N	087° 37' 51.07111713" E
16	24° 11' 23.51597501" N	087° 37' 51.32526958" E
17	24° 11' 23.83211489" N	087° 37' 51.55631726" E
18	24° 11' 24.48195727" N	087° 37' 51.85282845" E
19	24° 11' 24.20094446" N	087° 37' 52.76161600" E
20	24° 11' 24.32388759" N	087° 37' 52.97726050" E
21	24° 11' 24.22904575" N	087° 37' 53.20830818" E
22	24° 11' 24.05692533" N	087° 37' 53.88604805" E
23	24° 11' 23.83914021" N	087° 37' 54.42130851" E
24	24° 11' 23.74078561" N	087° 37' 54.34429262" E
25	24° 11' 23.58622834" N	087° 37' 54.64465460" E
26	24° 11' 23.33331632" N	087° 37' 55.31084208" E
27	24° 11' 23.28062630" N	087° 37' 55.42636593" E
28	24° 11' 23.25955029" N	087° 37' 55.68821996" E
29	24° 11' 22.94692269" N	087° 37' 56.32745188" E
30	24° 11' 22.62726954" N	087° 37' 57.37486804" E
31	24° 11' 23.01366344" N	087° 37' 57.59436334" E
32	24° 11' 23.35790500" N	087° 37' 57.89472532" E
33	24° 11' 23.87777952" N	087° 37' 58.02180155" E
34	24° 11' 23.64594365" N	087° 37' 58.57246519" E
35	24° 11' 23.35439233" N	087° 37' 58.37607466" E
36	24° 11' 23.17524624" N	087° 37' 58.88437956" E
37	24° 11' 22.21628658" N	087° 37' 58.17583333" E
38	24° 11' 22.24950526" N	087° 37' 57.93120218" E
39	24° 11' 21.58400440" N	087° 37' 57.82156022" E
40	24° 11' 21.47159858" N	087° 37' 57.64057287" E
41	24° 11' 21.42593371" N	087° 37' 57.27474738" E
42	24° 11' 21.40134494" N	087° 37' 56.51229003" E
43	24° 11' 21.78071451" N	087° 37' 55.47257546" E
44	24° 11' 22.11441896" N	087° 37' 54.50602599" E
45	24° 11' 22.46568654" N	087° 37' 53.23141295" E
46	24° 11' 22.60062870" N	087° 37' 52.57491543" E
47	24° 11' 22.59916815" N	087° 37' 51.63718395" E
48	24° 11' 23.21739827" N	087° 37' 50.06220892" E
49	24° 11' 23.56515234" N	087° 37' 48.86076098" E
50	24° 11' 23.80401357" N	087° 37' 47.74788131" E

LAND DETAILS

Khata no.	Plot no.
31 & 36	1886, 1891, 1892, 1893, 1894, 1944 & 1945

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 963/M, dated 16.08.2024.
2	CO	:	The CO, Shikaripara vide letter no. 1169/Ra., dated 22.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Dumka vide memo no. 1021/M, dated 05.07.2023 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1872, dated 27.03.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 1792, dated 05.08.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dumka District (Page no. 180).
7	Gram Sabha	:	Gram Sabha conducted on 23.05.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 1182/M, dated 16.10.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.50 Ha	Life of Mine – 5 year
3	Waste Generation	:	8580 cum	
4	Stripping Ratio	:	02:05	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	

7	Elevation of Mine	:	87m–65m AMSL
8	Ground Level Elevation	:	82 AMSL
9	Ultimate Working Depth	:	55 m AMSL
10	Water Table	:	Post Monsoon – 53.6m AMSL Pre Monsoon – 42.9m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	5.34 kg Slurry explosives/day
13	Diesel/Fuel requirement	:	HSD –260liters / day (78 KL/year)

Production Details

Year	Production of Stone / Year			Per Day Production		Removal of O.B.	
	Cum	T.F.	Tonnes	Cum	Tonnes	Cum	Production per day cum (O.B.
1st	20064	2.7	54173	67	181	8580	29
2nd	19468	2.7	52565	65	175	0	0
3rd	19468	2.7	52565	65	175	0	0
4th	11479	2.7	30993	38	103	0	0
5th	11887	2.7	32096	40	107	0	0
Total	**82367**	2.7	**222391**	**67 (Max.)**	**181 (Max.)**	**8580**	**29**

Land UsePattern

SL	Pattern of Utilization	Existing Land Use (Ha)	Proposed Land Use (Ha)	Conceptual Land Use (Ha)
1	Mining Activities	000	0.768	0.768
2	Offices/ Store etc.	000	0.000	0.000
3	Dumping	000	0.000	0.000
4	Garland drain	000	0.036	0.036
5	Settling Tank	000	0.012	0.012
6	Safety Zone	000	0.647	0.647
7	Stone Stock yards	000	0.000	0.000

8	Unutilized	1.50	0.036	0.036
	TOTAL	**1.50**	**1.50**	**1.50**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone/Unutilised		0.683 Ha	1092
2	Along Approach Road		0.110 m	144
TOTAL				**1236**

The SEAC considered the same and recommends for issuance of corrigendum EC with corrected details as stated above. Other terms & conditions mentioned in the previous EC letter no. EC/SEIAA/2024-25/3356 /2024/447, dated 03.01.2025 shall remain the same.

****

C. <u>Deputy Commissioner –cum- District Magistrate, Koderma or through authorized representative.</u>

i. Updated District Survey Report (DSR) for Minor Minerals other than Sand Mining or River Bed Mining (Stone), District Koderma.

This DSR was listed for consideration on 07.05.2025.

The updated DSR was submitted by Deputy Commissioner, Koderma. He was represented by Shri Satyajeet, District Mining Officer, Koderma at the SEAC meeting.

During the meeting the DMO, Koderma presented the DSR before the Committee. The DSR was appraised in light of S.O. no. 3611 (E), dated 25.07.2018 of MoEF&CC, Govt. of India.

It was found during the appraisal that the DSR is not prepared as per S.O. no. 3611 (E), dated 25.07.2018 of MoEF&CC, Govt. of India.

It will be taken up for consideration after the revised DSR as per S.O. no. 3611 (E), dated 25.07.2018 of MoEF&CC, Govt. of India.

****

D. Consideration of proposals :

1. **Proposed Residential cum Commercial Building "Ali Heights" of M/s Dream Ways Estates Pvt. Ltd., Village : Hindpiri, Thana : Hindpiri, Thana no. : 209, Distt. : Ranchi, Jharkhand.**

   (Proposal no.: SIA/JH/INFRA2/ 530437 /2025)

   Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

   This is a new project which has been taken for appraisal on 07.05.2025.

   Project Sector: 8(a) Building and Construction Projects , Category: B2.

   Application for Environment Clearance (EC) as per EIA notification, 2006.

   M/s Dream Ways Estates Pvt. Ltd.has Proposed Residential cum Commercial Building "Ali Heights" at MallahToli, Main Road, Ranchi, Jharkhand on the **total land area** measuring **7092.65 Sqm.** The proposed **built up area** is**34726.56 Sqm**. Earlier Building plan was approved by Ranchi Municipal Corporation vide memo no. RMC/GH/0692/W23/2024, dated 25.07.2024 for BUA 18,029.34 Sq.m. Out of which only 887.00 Sq.m has been constructed.

SalientFeatures of the Project

Sr. No.	Particulars	
1.	**Total Plot area**	**7092.65 Sqm.**
2.	Plot area as per approved site plan	3925.39 Sqm.
3.	Built-up area as per plan approved by Ranchi Municipal corporation	**18029.34 Sqm.**
4.	**Permissible FAR**	**3.2**
5.	FAR Achieved @ 3.18	22600 Sqm.
6.	Commercial Block Built-up area (Existing+ Proposed)	3855.2 Sqm.
7.	Residential built-up area (Existing + Proposed)	18744.8 Sqm.
8.	Residential Non FAR Area (Staircase Lift Balcony etc.)	817.09 Sqm.
9.	Parking Area provided at Basement	11309.47 Sqm.
10.	**Total Built-up Area (Existing + Proposed)**	**34726.56 Sqm.**
11.	Total No. of Car Parking Required	256 ECS
12.	Total No. of Car Parking Proposed	307 ECS
13.	Proposed surface parking for two wheeler	294 Nos.
14.	**Permissible Ground Coverage @ 35%**	2482.42 Sqm.
15.	**Proposed Ground Coverage @ 33.19%**	2354.06 Sqm.
16.	Landscape area Provided @ 17.18	1218.86 Sqm. Green cover-260.83sqm Green belt – 958.03 sqm
17.	Road Area	1509.47 Sqm.

18.	Open & Paved Area		2010.26 Sqm.
19.	Rain Water Harvesting Pits (with size)		5 Nos. (6.28 Cumec)
20.	STP Capacity		140 KLD
21.	Maximum Height of the Building (m)		Approx. 42 meter
22.	Power Requirement		1362 KW
23.	Power Backup		2X500 KVA (DG Sets)
24.	Total Water Requirement		~140 KLD
25.	Fresh/Domestic Water Requirement		~89 KLD
26.	Reuse of Recycled Water		~50 KLD
27.	Waste water Generated		~117 KLD
28.	Solid Waste Generated (Operational)		~712 Kg/day
29.	Biodegradable Waste (Operational)		~285 Kg/day
30.	Non-Biodegradable Waste (Operational)		~427 Kg/day
24.	Number of Tower		03
25.	Basement		1
26.	Stories		B+G+12
27.	Total Cost of the project:		**54.109 Crore**
28.	EMP Budget		During Construction: Capital: 48 Lakhs Recurring: 15 Lakhs
			Operational Cost: Capital: 165 Lakhs Recurring: 28 Lakhs
29.	Construction Phase:	i) Water Requirement & Source	Fresh water – 9 KLD Treated wastewater-12 KLD Source: Tanker water supply
		ii) STP (Modular)	20 KLD

LAND DETAILS

Plot no.
MS 628, MS 627, MS 626 & MS 625

Coordinatesof theProjectBoundary

S. No.	Latitude	Longitude
1	23°21'48.71"N	85°19'25.59"E
2	23°21'47.92"N	85°19'27.17"E
3	3°21'48.00"N	85°19'27.23"E
4	23°21'47.56"N	85°19'28.26"E
5	23°21'47.51"N	85°19'28.83"E

6	23°21'47.33"N	85°19'28.81"E
7	23°21'47.32"N	85°19'29.06"E
8	23°21'47.27"N	85°19'29.18"E
9	23°21'47.35"N	85°19'29.40"E
10	23°21'47.23"N	85°19'29.38"E
11	23°21'47.20"N	85°19'29.21"E
12	23°21'47.17"N	85°19'29.05"E
13	23°21'45.45"N	85°19'28.75"E
14	23°21'45.44"N	85°19'28.15"E
15	23°21'46.24"N	85°19'25.25"E

DetailedAreaStatement

S. No.	Details	Area
1	**Total Plot area**	**7092.65 Sqm.**
2	Plot area as per approved site plan	3925.39 Sqm.
3	Built-up area as per plan approved by Ranchi Municipal corporation	**18029.34 Sqm**
4	**Permissible FAR**	**3.2**
5	FAR Achieved @ 3.18	22600 Sqm
6	Commercial Block Built-up area (Existing+ Proposed)	3855.2 Sqm
7	Residential built-up area (Existing + Proposed)	18744.8 Sqm
8	Residential Non FAR Area (Staircase Lift Balcony etc.)	817.09 Sqm
9	Parking Area provided at Basement	11309.47 Sqm
10	**Total Built-up area (Existing + Proposed)**	**34726.56 Sqm**
11	**Plot area as per approved site plan**	**3925.39 Sqm**
12	**Built-up area as per approved site plan**	**18029.34 Sqm**
13	Total No. of Parking Required	256 ECS
14	Total No. of Parking Proposed	307 ECS
15	Proposed surface parking for two wheeler	294 No.
16	**Permissible Ground Coverage @ 35 %**	2482.42 Sqm
17	**Proposed Ground Coverage @ 33.19 %**	2354.06 Sqm
18	Greenbelt area Provided @ 17.18	1218.86 Sqm
19	Road Area	1509.47 Sqm
20	Open & Paved area	2010.26 sqm

Details of Building Blocks

Details	Proposed (F.A.R) Area (A)	Proposed (F.A.R) Area (B)	Proposed FAR Area (C)
	(Sq.mt.)	(Sq.mt.)	(Sq.mt.)
Basement			
Ground Floor	720	720	914.06
First Floor	740	740	1470.57

Second Floor	750	750	1470.57
Third Floor	750	750	
Fourth Floor	750	750	
Fifth Floor	750	750	
Sixth Floor	750	750	
Seventh Floor	750	750	
Eighth Floor	750	750	
Ninth Floor	750	750	
Tenth Floor	750	750	
Eleventh Floor	750	750	
Twelfth Floor	412.4	412.4	
Total :	**9372.4**	**9372.4**	**3855.2**

Details of As per existing Approved site plan

S. No.	Block	Built-up Area
1	Residential	16875.40
2	Commercial	1153.94
	Total	**18029.34 sqm**

Details of Buildings Blocks

Block	5BHK	4BHK	3 BHK	Total No. of units	Population	No. of Floors
Block A	4	40	65	109	678	B+G+12
Block B	4	40	63	107	668	B+G+12
Block C	6 sqm /Commercial BUA (3855.2 sqm)				642	G+2

Statutory Clearances :

1	Land Docs	:	Deed : Dream Ways Estates Private Limited.
2	DFO Territorial	:	DFO, Ranchi Forest Division vide letter no. 686, dated 26.02.2022 certified that the distance of reserved / protected forest is more than 250 meters from project site.
3	DFO Wildlife	:	DFO, Wildlife Division, Ranchi vide letter no. 219, dated 08.03.2022 certified that proposed project site is out side Eco Sensitive Zone of Palkot Wildlife Sanctuary.
4	CO certificate	:	The CO, Shahar, Ranchi vide letter 273 (ii) dated 20.03.2025 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan & Register II.
5	AAI NOC	:	Airport authority of India issued NOC vide NOC ID no. RANC /EAST /B/ 030622/658948, dated 06.04.2022 valid up to 05.04.2030.

6	Building Plan approval	:	Earlier Building plan was approved by Ranchi Municipal Corporation vide memo no. RMC/GH/0692/W23/2024, dated 25.07.2024 for BUA 18,029.34 Sq.m. Out of which only 887.00 Sq.m has been constructed. The present expansion proposal is on the basis of submitted conceptual plan for BUA 34,726.56 Sq.m.
7	Fire Department	:	Fire Advisory has been issued by Fire Department, Jharkhand, Ranchi vide letter no. 4631/Tech./2022, dated 04.12.2022.

Details of Site Surroundings and Connectivity

S. No.	Description		Distance and Direction
1.	Nearest Junction Nearest Railway Stations	Ranchi Junction Railway Station Argora Railway Station Hatia Railway Station	Approx. 1.89 Km towards SE Approx. 2 Km towards SSW Approx. 6.11 Km towards SSW
2.	Nearest Airport	BirsaMunda Airport, Ranchi	Approx. 5.0 km towards South
3.	Nearest Village	Hindpiri Nayatoli KalalToli	Approx. 0.5 Km towards SW Approx. 1.10 Km towards East Approx. 0.35 Km towards ESE
4.	Nearest Highway/Roads	Mahatma Gandhi Main Road Church Road Hazaribagh Road	Approx. 0.10 Km towards East Approx. 0.35 Km towards East Approx. 0.80 Km towards North
5.	Nearest School & College	Govt. Middle School, Hindpiri Govt. Urdu Middle School Hindpiri Marwari College Ranchi St. Xavier'S College Ranchi	Approx. 0.24 Km towards NW Approx. 0.35 Km towards SW Approx. 0.44 Km towards WNW Approx. 0.55 Km towards NNE
6.	Nearest Hospital	Sadar Hospital New BarhiToli Jharkhand National Hospital NagarmalModiSevaSadan Hospital Lane Sidhartha Nagar Doranda	Approx. 0.64 Km towards North Approx. 1.96 Km towards ENE Approx. 1.0 Km towards NE Approx. 2.37 Km towards SSE
7.	Places of worship	Shree Maa Kali Mandir Shree Shiv Mandir Shree SankatMochan Hanuman Mandir Pahari Temple, Ranchi	Approx. 0.37 Km towards North Approx. 0.42 Km towards WSW Approx. 0.40 Km towards North Approx. 1.91 Km towards NW
8.	Water Bodies	Ranchi Lake Line Tank Pond Kanke Dam	Approx. 0.60 Km towards WNW Approx. 1.0 Km towards North Approx. 1.0 Km towards NNW
9.	Nearest Town	Ranchi	Approx. 2.54 Km towards SSW
10.	Protected Forest/ Zoo	Oxygen Park Morabadi Ranchi	Approx. 2.98 Km towards North

Calculation of Population

Block	Total Dwelling Units	Unit Population	Population
Residential Block	216	4/5/6/7	1346
Visitors	10% of Residential Population		135
Commercial Block			
Visitors For Shops	6 sqm /Commercial BUA (3855.2 sqm)		578
Staff for Shops			64
Total Population			**2123**

Table 8: Parking Details

Table 8(a): Parking details of Residential Block

Car Parking Required	
Required Car Parking for use of residential	216 ECS
Required Car Parking for use of Visitors (10 %)	21 ECS
Total Car Parking required	237 ECS
Car Parking provided	
Proposed car parking at Ground Floor	36 ECS
Proposed car parking in stilt	241 ECS
Total Car Parking provided	277 ECS
Two Wheeler parking provided	214 Nos.

Parking detail Commercial Block

Vehicle Type	**Required**		**Provided**	
Car	**Number**	**Area**	**Number**	**Area**
Total Car	19	237.5	30	375
Loading /Unloading			1	26.25
Two wheeler			40	80
Total two wheeler	**79**	**158**	**80**	**160**
Total	**19 ECS, 79 two wheeler**		**30 ECS & 80 two wheeler**	

Calculation of Green belt

Total Plot Area	7092.65 Sqm.
Greenbelt area provided @ ~15.04 % of Plot Area	958.03 Sqm.
Green cover area provided @ 2.14 %	260.83sqm
Total Green area provided @ 17.18%	1218.86sqm
Total No. of Trees will be Planted	100 Nos.

Details of WaterRequirement

S. No.	Description	No. of units / Area in Sqm	Population	Unit water consumption (lpcd)	Total water required (kld)	Fresh water required (kld)	Flushing (kld)	Total Wastewater (kld) (80% of domestic +100% Total flushing)
	Main Dwelling Units (Residential)	216	1346	90 (60+30)	121.14	80.76	40.38	104.988
	Visitors (10% of the residential population)	..	135	15(10+5)	2.025	1.35	0.675	1.755
1	**Commercial visitors for Shop**		578	15* (10+5)	9	5.78	3	7.51
2	**Commercial visitors for Staff**	...	64	45 (25+20)	2.88	1.6	1.28	2.56
	Subtotal I				**135**	**89**	**46**	**117**
	Horticulture	1218.86		4 ltr/sqm	5			0
	Total				**140**	**89**	**46**	**117**
	STP Capacity @ 20 % more than waste water generated	140 KLD						
	Reuse of treated water							
	Flushing water	46 KLD						
	Hurticulture	5 KLD						
	Other construction activity	42 KLD						

Details of Wastewater Generation and STP Capacity

Details	Water (KLD)
Water requirement for domestic purpose	**89**
Wastewater to be generated from domestic use (@ 80% of domestic water requirement)	**71**
Water requirement for Flushing Purpose	46
Wastewater to be generated from Flushing (@ 100% of flushing requirement)	**46**
Total Wastewater generated	**117**
STP capacity 20% higher than total waste water	**140**

Solid waste Generation details

S. No.	Category of Solid Waste	Waste Generation Rate	Formula	Total Population	Waste Generated	Bio-degradable	Non-biodegradable
1	Main Dwelling Units (Residential)	0.3 to 0.6 kg/cap/day	Total Population*0.45	1346	605.7	242.28	363.42
2	Visitors (10% of the residential population)	0.05 to 0.2 kg/cap/day	Total Population*0.1	135	13.5	5.4	8.1
3	Commercial visitors for Shop	0.1 to 0.3 kg/cap/day	Total Population*0.15	578	86.7	34.68	52.02
4	Commercial visitors for Staff	0.05 to 0.2 kg/cap/day	Total Population*0.1	64	6.4	2.56	3.84
	Total			**2123**	**712**	**285**	**427**

Energy Conservation Measures

S. No.	Net Energy saved (weighted Average Calculation)	
1.	Solar Based lighting will be done in the common areas, Signages, entry gates and boundary walls etc. @ 5%	68.1 KVA
2.	LED Based lighting will be done in the dwelling units	13.56 KVA
3.	Usage of energy efficient Lift (VVVF non gear lifts)	18 KVA
	Total Energy saved	99.66 KVA
	Total Energy consumption	1362 KW
	Total Energy saving	**7.31 %**

Environmental Management Cost – Construction Phase

Sr. No.	Component	Particulars	Capital Investment (Lakhs)	Recurring Expenditure per Annum (Lakhs)
1.	Air	Anti-Smog Gun	30.0	1.0
2.	Water	Mobile STP, etc.	15.0	3.0
3.	Solid and C&D Waste and its Management	Stack yard and its management	5.0	2.0
4.	Environment Monitoring & Management	Environment Monitoring as per monitoring plan ➢ Construction of wind breaking wall ➢ Green Curtains on under construction	15.0	5.0

Sr. No.	Component	Particulars	Capital Investment (Lakhs)	Recurring Expenditure per Annum (Lakhs)
		building		
5.	Green Belt	Development and maintenance of green belt	10.0	4
Total (Rs.)			**48**	**15**

Environmental Management Cost – Operation Phase

Sr. No.	Component	Particulars	Capital Investment (Lakhs)	Recurring Expenditure per Annum (Lakhs)
1.	Air	Stack emission control	5.0	2.00
2.	Water	Sewage Treatment Plant (STP) MBR	80	10.0
3.	Rain Water Harvesting	Installation of RWH System & Annual Cleaning of RWH tank	10	2.00
4.	Solid waste Area and its Management	Purchase of Containers for Storage of WasteOWC for 300 Kg/day	10	3.00
5.	Environment Monitoring & Management	Environment Monitoring as per monitoring plan	0.0	2.5
6.	Green Belt	Development and maintenance of green belt	10	2.5
7.	Others	Energy saving devices, miscellaneous i.e. Electrical Vehicle Charging point	40 10	5.0 1
		Total (Rs.)	**165**	**28**

Organization Structure

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the building construction project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the Construction activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible Construction practices
- Promoting sustainable practices to conserve natural resources

- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

The EMP Cell objectives are:

- To Minimize.environmental impacts on air, water, soil, and biodiversity
- To Ensure compliance with regulatory requirements and industry standards
- To Promote sustainable practices through efficient resource utilization
- To Enhance community engagement and transparency through regular updates

Monitoring Period:

Construction Phase:

S. No.	Type	Locations	Parameters	Period and Frequency
1.	Ambient Air Quality Monitoring	As per requirement	SO_2, NO_2, PM_{10}, $PM_{2.5}$ and CO	Once in a Six month.
2.	Ambient Noise Monitoring	As per requirement	Noise level L_{eq} both during day time and night time	Once in a Six month.
3.	Water Quality Testing (Portability testing)	(i) Any operational bore well (ii) One of the Drinking Water Point	Drinking water parameters as per IS 10500:2005.	Once in a Six month.
4.	Treated Wastewater Quality	Inlet and outlet of the STP	Parameters for assessing compliance with standards for recycling and horticulture use	Once in a Six month.

Operation Phase:

S. No.	Type	Locations	Parameters	Period and Frequency
1.	Ambient Air Quality Monitoring	As per requirement	SO_2, NO_2, PM10, PM2.5 and CO	Once in a Six month.

2.	Ambient Noise Monitoring	As per requirement	Noise level L_{eq} both during day time and night time	Once in a Six month.
3.	Water Quality Testing (Potability testing)	(i)Any operational borewell (ii)One of the Drinking Water Point	Drinking water parameters as per IS 10500:2012.	Once in a Six month.
4.	Treated Wastewater Quality	Inlet and outlet of the STP	Parameters for assessing compliance with standards for recycling and horticulture use	Once in a Six month.

Based on the presentation made and information provided, the Committee decided that the proposal for Proposed Residential cum Commercial Building "Ali Heights" of M/s Dream Ways Estates Pvt. Ltd., Village : Hindpiri, Thana : Hindpiri, Thana no. : 209, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –I alongwith the following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

VI. Developers to offsets energy consumption by solar generation of not less than 02 % of connected load.

VII. Trees should be developed & maintained not less than 15% of project area.

VIII. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.

IX. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

X. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is harvested including usage within the premises only on 100% basis.

XI. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XII. Water runoff originating from open non constructed areas of project premises to be harvested /guided in such a way that it does not create water logging condition outside.

XIII. Sufficient number of EV fast charging stations to be installed.

XIV. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XV. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

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2. **Jarmundi Stone Mines by M/s Shree Rajawat Rock Mines (Partner : Shri Manish Sourabh Singh), Village : Jarmundi, Anchal : Palajuri, Thana no. : 424, Distt. : Deoghar, Jharkhand (1.40 Ha).**

(Proposal no.: SIA/JH/MIN/ 535783 /2025)

Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: **Boulder Stone:36950 Cum Per Annum /99765Tonnes Per Annum**

Morum: Not Present

DG Set: 60 KVA

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Jarmundi Stone Mine	
2	Lessee:	:	Shree Rajawat Rock Mines Partner- Shri Manish Saurabh Singh	
3	Lease Address	:	Mauza- Jarmundi, Thana No.-424, Thana- Palajuri, District- Deoghar, Jharkhand	
4	Lease Area	:	Ha:1.40 ha	Acres:3.47Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	45.0 Lakhs	
7	EMP Budget	:	Capital: 10.43Lakhs	Recurring: 5.96 Lakh / year
8	CSR / CER Budget	:	Rs. 90,000	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	456962 Tonnes	
11	Mine Life	:	05 years	
12	Man power	:	24	
13	Water Requirement	:	7.94 KLD= 0.24 KLD (Drinking & Domestic Uses) + 2.7 (Plantation) KLD + 5.0 KLD (Dust Suppression).	
14	Water Source	:	From Nearby villages by tankers	
15	DG Set / power	:	60 KVA	
16	Crusher	:	Not Present	
17	Nearest Water Body	:	Ajay River, approx. 11.90 Km towards West.	
18	Nearest Habitation	:	Jarmundi, approx. 0.70 km towards SSE direction.	
19	Nearest Rail Station	:	Madhupur Junction, approx. 31.41 km towards WNW direction.	
20	Nearest Air Port	:	Deoghar Airport, approx. 35.29 km towards NW direction. (Source: Google earth & Aerial Distance)	
21	Nearest Forest	:	Phuljori Pahar PF, approx. 2.60 Km towards NNW. Protected Forest, approx. 1.70 Km towards NW.	
22	Road & Highways	:	MDR (Sarath Road), Approx. 1.70 km towards NW direction.	

CO-ORDINATES

1	Latitude		From 24° 12' 35.41"N	To 24° 12' 38.87" N

2	Longitude		From 86° 56' 46.42"E	To 86° 56' 40.84" E

LAND DETAILS

Khata no.	Plot no.
27	25, 27, 29, 30 & 42

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 837/M, dated 15.06.2023.
2	CO	:	The CO, Palojori vide letter no. 81/Ra., dated 06.02.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 416/M, dated 12.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 625, dated 25.03.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 486, dated 16.03.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 61, Sl. No. 03).
7	Gram Sabha	:	Gram Sabha conducted on 03.02.2023.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 357, dated 19.07.2023.
9	Qualified Person	:	Shri A.K. Sinha through letter dated 07.05.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Method, Semi-Mechanized Mine, Wagon Drilling & Control Blasting will be deploy
2	Quarry Area	:	1.40 ha.

3	Waste Generation	:	1st Year–10639 cum Waste
4	Stripping Ratio	:	1:00
5	Working Days	:	300
6	Benches: size & No	:	6m x 6m
7	Elevation of Mine	:	251-254 AMSL
8	Ground Level Elevation		251 mAMSL
9	Ultimate Working Depth	:	229 m AMSL
10	Water Table	:	137 m AMSL
11	Topography of Mine	:	Undulating hillocks
12	Explosive Requirement	:	32 Kg/day
13	Diesel/Fuel requirement	:	576Litres/day

Production Details

Year	Production of Stone		
	Cum	T.F.	Tonnes
1st	33900	2.7	91530
2nd	29593	2.7	79901
3rd	27315	2.7	73751
4th	36950	2.7	99765
5th	34255	2.7	92489
Total	**162013**	**2.7**	**437435**

Land Use

LAND USE PATTERN					
Land Utilization	**Existing Land Use (Ha)**	**Proposed Land use for Current plan period (acres)**	**Land to be used in Remaining period ofthe life of the mine. (acres)**	**Land usedat the conceptual stage i.e end of mine life in (acres)**	**Area to be converted in the conceptual period.**
Mining Activities	0.00	1.92	0.00	1.92	Water body
Offices/Store/Magazine etc.	0.00	0.05	0.00	0.05	
Dumping	0.00	0.15	0.00	0.15	Plantation

Mining Road	0.00	0.05	0.00	0.05	
Garland drain	0.00	0.10	0.00	0.10	
Settling Pond	0.00	0.03	0.00	0.03	Green Belt
Green belt/Safety zone	0.00	0.90	0.00	0.90	
Stone Stock yards	0.00	0.00	0.00	0.00	
Unutilized	3.47	0.27	0.00	0.27	Plantation
Total	**3.47**	**3.47**	**0.00**	**3.47**	

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Area in safety Zone (Ha.)	Approach road Area (Ha.)	Dump, Settling Pond & Unutilized Area (Ha)	Total Area (Ha.)	No. of plants
1st Year	0.36	0.15	0.18	0.69	1104
2nd Year	Care & Protection				
3rd Year					
4th Year					
5th Year					

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Plan:

S.NO	Particulars	Annual Budget	
A) **Site Facilities**		**Capital Cost (In Lakh)**	**Recurring cost (In Lakh)**
1	a) Water sprinkling facility with solar pump / diesel pump	1.0	0.4
	b) Cost of Water Rs. 200/Tanker/day (Capacity 3.5 KL x 2 No.) (200X 2 X 300)	-	1.20
2.	Garland Drains and Settling Tanks (10m x 02 m x 03m x	2.5	0.15
3	Road Development and Maintenance (Road length approx. 250m, Width 5.0 mt.)	2.0	0.4
4	Plantation over the periphery of the project (1104 saplings). 1104*40= 0.44 Lakh Tree Guard: 1104*100=1.10 Lakhs	1.54	0.5

5	PUC certification of vehicles and maintenance	-	0.10
Sub Total(A)		**7.04**	**2.75**
B) Labor Welfare			
1	Drinking Water Facility and rest shelter (10X20 m) with solar	1.0	0.10
2	Toilets 2 nos. (Rs 25000 x 2)	0.50	0.05
3	Occupational health checkup in a year for 24 workers (@twice/year) @200*2*24 and onsite first aid set-up	0.09	0.10
4	Provision of PPEs (helmets, safety shoes, safety glasses, gloves etc. (24 x 3000)	0.72	0.05
5	Vocational training on mining methods and safe work practices (@twice/year)@ 250 x 2 x 24)	-	0.12
Sub Total(B)		**2.31**	**0.42**
C)Emergency Rescue Plan			
1	Fire Extinguishers (1 Nos.) @ 50000 / firefighting and, first aid @ 2000 per kit	0.50	0.01
2	Safety signage and warning boards like sirens, red flags, cones etc.	0.50	0.05
Sub Total(C)		**1.0**	**0.06**
D)Solid Waste Management			
1	a) Bins 2 Nos. @ Rs. 1500 each	0.03	0.05
	b) Pit and Composting	0.05	
Sub Total(D)		**0.08**	**0.05**
E)Monitoring Program			
1	a) Ambient Air Quality	-	0.90
	b) Water Quality	-	0.80
	c) Noise Quality	-	0.18
	d) Soil Quality	-	0.80
Sub Total(E)		**-**	**2.68**
Grand Total(A+B+C+D+E)		**10.43**	**5.96**

Waste Management

It can be seen from the development programme that there will be generation of total 10639 cum / 15959 tonnes waste during the 1st year plan period. All the waste shall be utilized to haul road and approach transporting route pitching and leveling during mining operation.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard

d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Quantity of HSD/ Fuel consumption per day of Jarmundi StoneMine

S. No	Machine	Details of fuel (Diesel) requirements	Consumption of Diesel (in liters/day.)
1	Wagon Drill	Number of Machine=1 Diesel consumptionin one shift working. (i.e-10 liters) =1*8*10=80liters	80liters
2	Excavator	Number of Machine=01 Diesel consumptionin one shift working.(i.e-07litre/hr) =1*8*7=56 liters	56liters
3	Tippers	Number of Tippers=04 Diesel consumptionin one shift working. (i.e-4ltr/hr.) =04*10*4=160	160 liters
4	DG Set	Number of DG Set =1(60 KVA) Diesel consumption by one in one shift working.(i.e-16 liter/hr.) =1*10*16=160 liters	160 liters
5	Water Sprinkler	Number of Sprinkler=01 Diesel consumption by Sprinkler in one shift working (i.e-2ltr/hr.) =1*10*2=20 liters	20 liters

6	Extra	Transport vehicle, super vision vehicle, maintenance vehicle	100 liters
Total			**576**

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and

transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

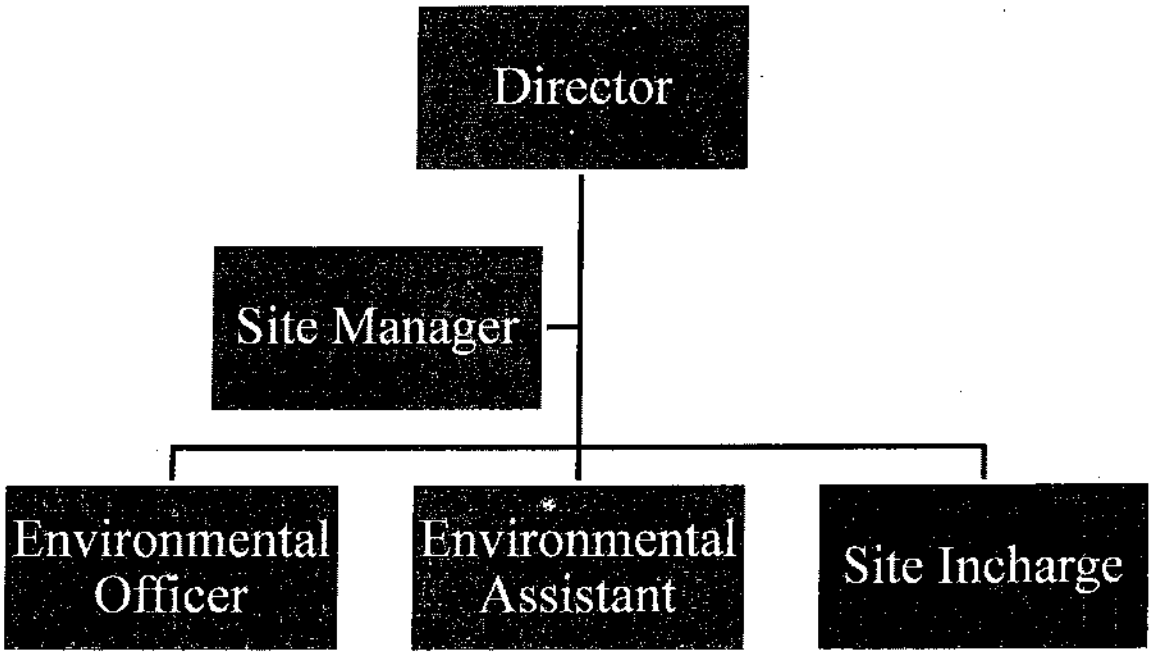
Our company.is committed to:
- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

The EMP Cell objectives are:
- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:
- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:
1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:
1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:
- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:
1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:
- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Jarmundi Stone Mines by M/s Shree Rajawat Rock Mines (Partner : Shri Manish Sourabh Singh), Village : Jarmundi, Anchal : Palajuri, Thana no. : 424, Distt. : Deoghar, Jharkhand (1.40 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a

time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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3. **Tangarjora Stone Deposit by M/s Sukhchain Industries Pvt. Ltd. (Director : Shri Sachida Nand Prasad), Mauza : Tangarjora, Thana : Rajnagar, Distt. : Saraikela-Kharsawan, Jharkhand (1.662 Ha).**

(Proposal no.: SIA/JH/MIN/ 535896 /2025)

Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: **Boulder Stone:47576 Cum Per Annum /128455 Tonnes Per Annum**
Morum: Not Present
DG Set: 60 KVA

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Tangarjora Stone Deposit	
2	Lessee:	:	M/s Sukhchain Industries Pvt. Ltd. Director- Shri Sachida Nand Prasad	
3	Lease Address	:	Mauza- Tangarjora, Thana No.-75, Thana-Rajnagar, Anchal-Rajnagar, District- Saraikela Kharsawan, Jharkhand	
4	Lease Area	:	Ha:1.662 ha	Acres: 4.109 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	42.0 Lakhs	
7	EMP Budget	:	Capital: 16.81Lakhs	Recurring:7.32 Lakh / year
8	CSR / CER Budget	:	Rs. 84,000	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	593515 Tonnes	
11	Mine Life	:	05 years	
12	Man power	:	16	
13	Water Requirement	:	8.346 KLD= 0.16 KLD (Drinking & Domestic Uses) + 3.186 (Plantation) KLD + 5 KLD (Dust Suppression).	
14	Water Source	:	From Nearby villages by tankers	
15	DG Set / power	:	60 KVA	
16	Crusher	:	Not Present	
17	Nearest Water Body	:	Kharkai Nadi, Approx. 8.80 Km towards NNW.	
18	Nearest Habitation	:	Tangarjora, Approx. 0.35 km towards NNE direction.	
19	Nearest Rail Station	:	Haludpur Railway Station, approx. 8.0 km towards SSE.	
20	Nearest Air Port	:	Birsa Munda Airport Ranchi, Approx, 108.50 km towards NW.	
21	Nearest Forest	:	PF, approx. 3.80 Km towards NNE.	
22	Road & Highways	:	Hata-Rajnagar Road, NH220, Approx. 4.7 km towards South Direction.	
23	Interstate Boundary	:	Jharkhand- Orissa State Boundary, Approx. 14.0 km towards SSW.	

CO-ORDINATES

1	Latitude		From 22° 40' 5.211"N	To 22° 40' 11.331"N
2	Longitude		From 86° 7' 6.345"E	To 86° 7' 12.992"E

LAND DETAILS

Khata no.	Plot no.
55	472
43	471
119	469, 476, 467, 465
120	468, 473, 477

110	893
115	463, 474
116	475, 478, 464

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Saraikela-Kharsawan vide letter no. 151/M, dated 29.01.2025.
2	CO	:	The CO, Rajnagar vide letter no. 286, dated 19.04.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan and also mentioned that the habitation within 500 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Saraikela-Kharsawan vide letter no. 543/M, dated 30.04.2025 certified that 01 other mining lease area (7.11 Acre) exists within 500 meters radius from proposed project site and total area is 11.219 Acre.
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 542, dated 03.04.2025 certified that the proposed project site is outside Eco Sensitive Zone of Dalmia Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Saraikela Forest Division, Saraikela vide letter no. 1617, dated 07.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Saraikela-Kharsawan District (Page no. 169, Sl. No. 07).
7	Gram Sabha	:	BDO, Rajnagar vide letter no. 704, dated 25.06.2024 informed that Gram Sabha conducted on 19.06.2024.
8	Mine Plan Approval	:	Approved by DMO, Saraikela-Kharsawan vide Letter No. 528/Mining, dated 28.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Method, Semi-Mechanized Mine, Wagon Drilling & Control Blasting will be deploy
2	Quarry Area	:	1.662 ha.
3	Waste Generation	:	5 years–52308 cum in-situ waste
4	Stripping Ratio	:	1:00
5	Working Days	:	300
6	Benches: size & No	:	6m x 6m
7	Elevation of Mine	:	207-203m AMSL
8	Ground Level Elevation		203m AMSL
9	Ultimate Working Depth	:	164 m AMSL
10	Water Table	:	147 m AMSL
11	Topography of Mine	:	Undulating small hillocks
12	Explosive Requirement	:	21.26MT/Kg
13	Diesel/Fuel requirement	:	456 Litres/day

Production Details

Year	Production of stone in cum	Production of stone in tonnes
1st	41278	111449
2nd	41648	112450
3rd	42560	114912
4th	46740	126198
5th	47576	128455
Total	**219802**	**593464**

Land Use

LAND USE PATTERN			
Pattern of Utilization	**Existing Land use (Ha)**	**At the end of plan period (Ha)**	**At Conceptual period (Ha)**
Excavation	0.0	1.126 (0.200ha area shall be Backfilled, 0.764ha converted in to water reservoir & 0.162ha shall be	1.126 (0.200ha area shall be Backfilled, 0.764ha converted in to water reservoir & 0.162ha shall be

		left as dead benches)	left as dead benches)
Waste Dump	0.0	0.00 (0.275 ha waste dump to be removed and backfilled)	0.00 (0.275 ha waste dump to be removed and backfilled)
Road	0.0	0.0(comes under quarry)	0.0 (comes under quarry)
Infrastructure (Crusher)	0.0	0.0	0.0
Safety Zone. Plantation	0.0	0.536	0.536
Total	**0.00**	**1.662**	**1.662**
Unused Area	**1.662**	**0.00**	**0.00**
Total Lease Area	**1.662**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Area in safety Zone (Ha.)	Approach road Area (Ha.)	Backfilled area (ha)	Total Area (Ha.)	No. of plants
1st	0.536	0.128	0.200	0.864	1382
2nd	Care & Protection				
3rd					
4th					
5th					

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Waste Management

In this applied lease area, the stone deposit is covered with 2m layer of intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 52304 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 26154 cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 26154 cum insitu 32692.19 cum loose & 27788.36 cum compact waste shall be temporary dumped in eastern part during first year, and second year

onwards the generated waste and waste materials of temporary dump shall be removed and used for backfilling of exhausted part of quarry in western part and it will cover 0.200ha.

Environment Management Plan:

S.NO	Particulars	Annual Budget	
A) **Site Facilities**		**Capital Cost (In Lakh)**	**Recurring cost (In Lakh)**
1.	a) Cost of Water Rs. 500/Tanker/day (Capacity 5.0 KL x 2 No.) (500X 2 X 300) b) Water sprinkling facility with solar pump / diesel pump	1.0	3.0
2.	Garland Drains and Settling Tanks (10m x 02 m x 03m x	2.75	0.15
3	Road Development and Maintenance (Road length approx. 200m, Width 5.0 m.)	2.0	0.4
4.	Plantation over the periphery of the project (1382 saplings). 1382*40= 0.55 Lakh	1.93	0.5
5	PUC certification of vehicles and maintenance	-	0.10
Sub Total(A)		**7.68**	**4.15**
B) **Labor Welfare**			
1	Drinking Water Facility and rest shelter (10X20 m) with solar	1.0	0.10
2	Toilets 3 nos. (Rs 25000 x 2)	0.50	0.05
3	Occupational health checkup in a year for 16 workers (@twice/year) @200*2*16 and onsite first aid set-up	0.07	0.10
4	Provision of PPEs (helmets, safety shoes, safety glasses, gloves etc. (16 x 3000)	0.48	0.05
5	Vocational training on mining methods and safe work practices (@twice/year) @ 250 x 2 x 16)	-	0.08
Sub Total(B)		**2.05**	**0.38**
C) **Emergency Rescue Plan**			
1	Fire Extinguishers (2 Nos.) @ 50000 / firefighting and, first aid @ 2000 per kit	0.50	0.01
2	Safety signage and warning boards like sirens, red flags, cones etc.	0.50	0.05
3	Damage Maintenance Cost	5.0	0.00
Sub Total(C)		**6.0**	**0.06**
D) **Solid Waste Management**			
1	a) Bins 2 Nos. @ Rs. 1500 each	0.03	0.05
	b) Pit and Composting	0.05	
Sub Total(D)		**0.08**	**0.05**
E) **Monitoring Program**			
	e) Ambient Air Quality	-	0.90

1	f) Water Quality	-	0.80
	g) Noise Quality	-	0.18
	h) Soil Quality	-	0.80
Sub Total(E)		-	**2.68**
Grand Total(A+B+C+D+E)		**16.81**	**7.32**

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Quantity of HSD/ Fuel consumption per day of StoneMine

S. No	Machine	Details of fuel (Diesel) requirements	Consumption of Diesel (in liters/day.)
1	Wagon Drill	Number of Machine=1 Diesel consumptionin one shift working. (i.e-10 liters) =1*8*10=80liters	80liters

2	Excavator	Number of Machine=01 Diesel consumptionin one shift working.(i.e-07litre/hr) =1*8*7=56 liters	56liters
3	Tippers	Number of Tippers=04 Diesel consumptionin one shift working. (I.e-4ltr/hr.) =04*10*4=160	160 liters
4	DG Set	Number of DG Set =1(60 KVA) Diesel consumption by one in one shift working.(i.e-16 liter/hr.) =1*10*16=160 liters	160 liters
5	Water Sprinkler	Number of Sprinkler=01 Diesel consumption by Sprinkler in one shift working (i.e-2ltr/hr.) =1*10*2=20 liters.	20 liters
6	Extra	Transport vehicle, super vision vehicle, maintenance vehicle	100 liters
Total			**576**

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

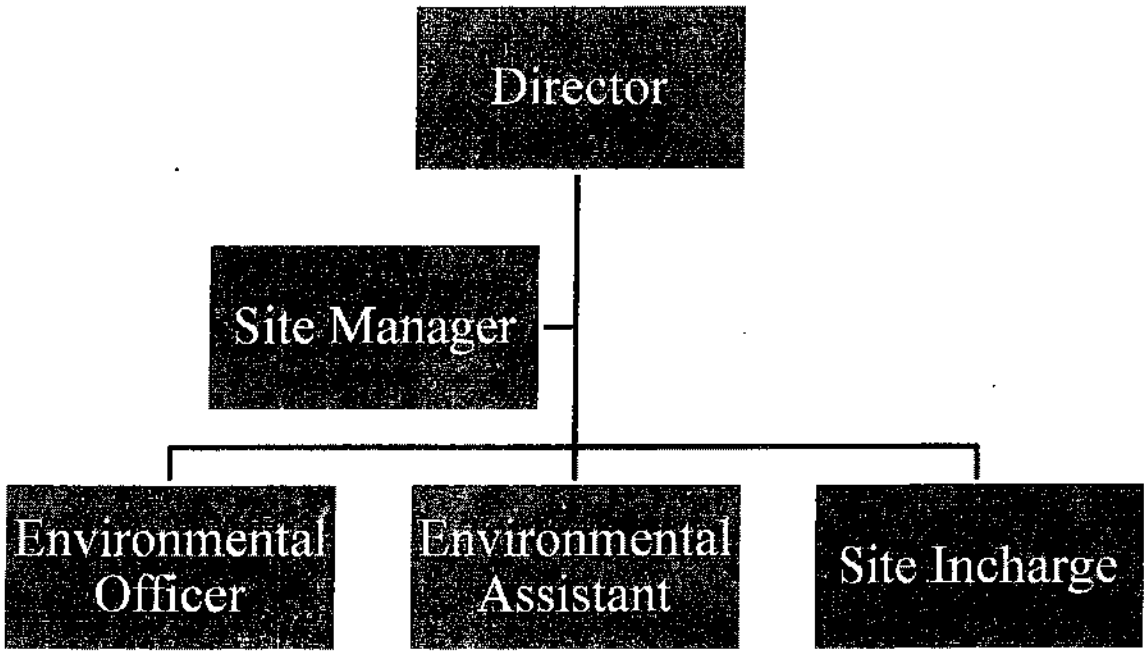
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation

- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Tangarjora Stone Deposit by M/s Sukhchain Industries Pvt. Ltd. (Director : Shri Sachida Nand Prasad), Mauza : Tangarjora, Thana : Rajnagar, Distt. : Saraikela-Kharsawan, Jharkhand (1.662 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

4. **Champa Stone Deposit by M/s Bansidhar Construction Pvt. Ltd., Mauza : Champa, Thana no. : 7, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.387 Ha).**

(Proposal no.: SIA/JH/MIN/ 530394 /2025)

Name of the consultant : Rian Enviro Pvt. Ltd., Patna, Bihar.

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: **Boulder Stone:133431.48Cum Per Annum /360265Tonnes Per Annum**
Morum: Not Present
DG Set: 60 KVA

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Champa Stone Deposit	
2	Lessee:	:	M/s Banshidhar Construction Pvt. Ltd. CEO- Shri Prakash Kumar Singh	
3	Lease Address	:	Mauza- Champa, Thana No.-07, Thana- Borio, District- Sahebganj, Jharkhand	
4	Lease Area	:	Ha:2.387 ha	Acres:5.90Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	48.0 Lakhs	
7	EMP Budget	:	Capital: 11.89Lakhs	Recurring: 7.6 Lakh / year
8	CSR / CER Budget	:	Rs. 96,000	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	1742110 Tonnes	
11	Mine Life	:	05 years	
12	Man power	:	23	
13	Water Requirement	:	Total water requirement is about 9.331 KLD= 0.23 KLD (Drinking & Domestic Uses) + 4.101 (Plantation) KLD + 5.0 KLD (Dust Suppression).	
14	Water Source	:	From Nearby villages by tankers	
15	DG Set / power	:	60 KVA	
16	Crusher	:	Not Present	
17	Nearest Water Body	:	Ganga River, approx. 8.0 Km towards North.	
18	Nearest Habitation	:	Champa, Approx. 0.6 km towards NNE direction.	
19	Nearest Rail Station	:	Sahibganj Railway Station, approx. 8.20 km towards NNW direction.	
20	Nearest Air Port	:	Deoghar Airport, approx. 125.4 km towards SW direction. Birsa Munda Airport, Ranchi, approx. 313.80 km towards SW	

			direction. (Source: Google earth & Aerial Distance)
21	Nearest Forest	:	Protected Forest, approx. 1.35 Km towards East.
22	Road & Highways	:	NH-33, approx. 7.3 km towards North direction. SH-18, approx. 1.0 km towards East direction.

CO-ORDINATES

1	Latitude		From 25° 10' 6.885"N	To 25° 10' 17.306" N
2	Longitude		From 87° 39' 43.472"E	To 87° 39' 48.483" E

LAND DETAILS

Plot no.
185 (P) & 186 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 107/M, dated 21.01.2025.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 371/Ra., dated 30.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 238/M, dated 10.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 295, dated 13.02.2021 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Territorial	:	Division Forest Officer, Sahibganj Forest Division vide letter no. 150, dated 29.01.2021 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has been certified vide memo no. 468/M, dated 18.03.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 197).
7	Gram Sabha	:	Gram Sabha conducted on 02.09.2019.

8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 466/M, dated 18.03.2025.
9	Grid certificate	:	DMO, Sahibganj vide memo no. 467/M, dated 18.03.2025 certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
10	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Method, Semi-Mechanized Mine, Wagon Drilling & Control Blasting will be deploy
2	Quarry Area	:	2.387 ha.
3	Waste Generation	:	5 years–79384 cum in-situ waste
4	Stripping Ratio	:	1:00
5	Working Days	:	300
6	Benches: size & No	:	6m x 6m
7	Elevation of Mine	:	264-222 m AMSL
8	Ground Level Elevation		222m AMSL
9	Ultimate Working Depth	:	199 m AMSL
10	Water Table	:	170 m AMSL
11	Topography of Mine	:	Undulating hillocks
12	Explosive Requirement	:	21.26MT/Kg
13	Diesel/Fuel requirement	:	632Litres/day

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes
1st	125044	337618
2nd	126737	342189
3rd	128891	348006
4th	131123	354032
5th	133431	360265
Total	**645226**	**1742110**

Land Use

LAND USE PATTERN			
Land Utilization	**Existing Land Use (Ha)**	**At the end of plan period (Ha)**	**At Conceptual period (Ha)**
Quarry	NIL	1.800 (0.128ha area shall be backfilled, 0.704 ha area shall be developed as water reservoir and 0.968 ha left as dead benches).	1.800 (0.128ha area shall be backfilled, 0.704 ha area shall be developed as water reservoir and 0.968 ha left as dead benches).
Waste Dump	NIL	Nil (0.309 ha waste dump to be removed and backfilled)	Nil (0.309 ha waste dump to be removed and backfilled)
Road	NIL	0.000	0.000
Crusher	NIL	NIL	NIL
Safety Zone Plantation	NIL	0.587	0.587
Total	**0.000**	**2.387**	**2.387**
Unused Area	**2.387**	**0.000**	**0.000**
Total Lease Area	**2.387**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Area in safety Zone (Ha.)	Approach road Area (Ha.)	Backfilled area (ha)	Total Area (Ha.)	No. of plants
1st Year	0.587	0.267	0.128	0.982	1571
2nd Year	Care & Protection				
3rd Year					
4th Year					
5th Year					

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation.

Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Waste Management

In this applied lease area, the stone deposit is covered with 2m layer of intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 79384 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 39692 cum (In situ) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e.39692 cum in situ 49615.03cum loose & 42172.78 cum compact waste shall be temporary dumped in southern part, up to third year and fourth year onwards the generated waste and waste materials of past dumping shall be removed and used for backfilling of exhausted part of quarry in northern part it will cover 0.128ha area.

Environment Management Plan:

S.NO	Particulars	Annual Budget	
A) **Site Facilities**		**Capital Cost (In Lakh)**	**Recurring cost (In Lakh)**
1	a) Water sprinkling facility with solar pump / diesel pump	1.0	0.4
	b) Cost of Water Rs. 500/Tanker/day (Capacity 5 KLD x 2 No.) (500X 2 X 300)	-	3.0
2.	Garland Drains and Settling Tanks (10m x 02 m x 03m x	2.5	0.15
3	Road Development and Maintenance (Road length approx. 250m, Width 5.0 mt.)	2.0	0.4
4	Plantation over the periphery of the project (1571 saplings). 1571*40= 0.63 Lakh	2.2	0.5
5	PUC certification of vehicles and maintenance	-	0.10
Sub Total(A)		**7.7**	**4.45**
B) **Labor Welfare**			
1	Drinking Water Facility and rest shelter (10X20 m) with	1.0	0.10
2	Toilets 2 nos. (Rs 25000 x 2)	0.50	0.05
3	Occupational health checkup in a year for 23 workers (@twice/year) @200*2*23 and onsite first aid set-up	0.92	0.10
4	Provision of PPEs (helmets, safety shoes, safety glasses, gloves etc. (23 x 3000)	0.69	0.05
5	Vocational training on mining methods and safe work practices (@twice/year)@ 250 x 2 x 23)	-	0.11
Sub Total(B)		**3.11**	**0.41**

C) **Emergency Rescue Plan**			
1	Fire Extinguishers (1 Nos.) @ 50000 / firefighting and, first aid @ 2000 per kit	0.50	0.01
2	Safety signage and warning boards like sirens, red flags, cones etc.	0.50	0.05
Sub Total(C)		**1.0**	**0.06**
D) **Solid Waste Management**			
1	a) Bins 2 Nos. @ Rs. 1500 each	0.03	0.05
	b) Pit and Composting	0.05	
Sub Total(D)		**0.08**	**0.05**
E) **Monitoring Program**			
1	i) Ambient Air Quality	-	0.90
	j) Water Quality	-	0.80
	k) Noise Quality	-	0.18
	l) Soil Quality	-	0.80
Sub Total(E)		-	**2.68**
Grand Total(A+B+C+D+E)		**11.89**	**7.6**

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Quantity of HSD/ Fuel consumption per day of Champa Stone Deposit

S. No	Machine	Details of fuel (Diesel) requirements	Consumption of Diesel (in liters/day.)
1	Wagon Drill	Number of Machine=1 Diesel consumptionin one shift working. (i.e-10 liters) =1*8*10=80liters	80liters
2	Excavator	Number of Machine=02 Diesel consumptionin one shift working. (i.e-07litre/hr) =2*8*7=112 liters	112liters
3	Tippers	Number of Tippers=04 Diesel consumptionin one shift working. (i.e-4ltr/hr.) =04*10*4=160	160 liters
4	DG Set	Number of DG Set =1(60 KVA) Diesel consumption by one in one shift working.(i.e-16 liter/hr.) =1*10*16=160 liters	160 liters
5	Water Sprinkler	Number of Sprinkler=01 Diesel consumption by Sprinkler in one shift working (i.e-2ltr/hr.) =1*10*2=20 liters.	20 liters
6	Extra	Transport vehicle, super vision vehicle, maintenance vehicle	100 liters
Total			**632**

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be used for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc. shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

The EMP Cell objectives are:

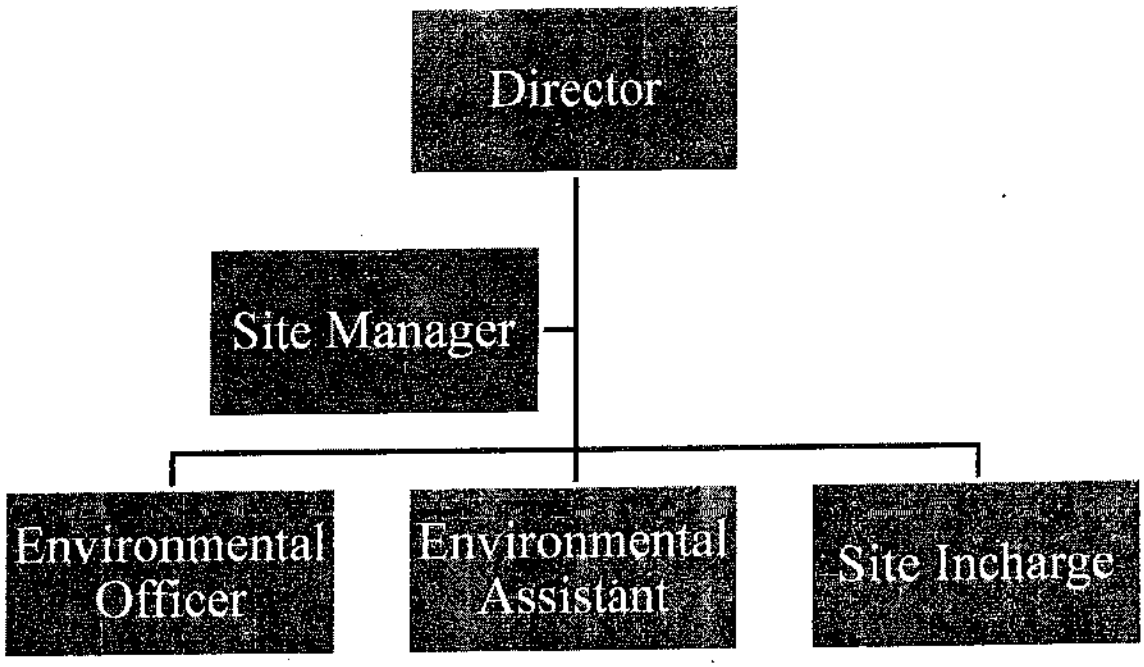
- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection

- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)
- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)
- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)
- Maintain environmental records
- Coordinate documentation

- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director

- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Champa Stone Deposit by M/s Bansidhar Construction Pvt. Ltd., Mauza : Champa, Thana no. : 7, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.387 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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5. **Production of MS Billets 3,00,000 TPA through installing 4x20 T Induction Furnaces, CCM of 2x2 Strand, Radius – 6/11 along with rolling mill to produce 2,90,500 TPA rolled product and Slag Crusher of 10 TPH by M/s Sarvashiva Iron and Steel Private Limited, Village : Lalmandigtha, Gumo, Jhumri Telaiya, P.S. : Koderma, Distt. : Koderma, Jharkhand.**

(Proposal No : SIA/JH/IND1/535869/2025).

Name of the consultant : Rian Enviro Private Limited, Patna, Bihar.

This is a new project which has been taken for appraisal on 21.12.2024.

Project Sector: 3 (a) Metallurgical Industries (secondary metallurgical processing) as per EIA Notification, 2006, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 111th meeting held on 26.04.2024 - 30.04.2024 and SEIAA, Jharkhand has approved the ToRs in 111th meeting held on 06th & 07th May, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3079/2024/44, dated 09.05.2024. The final EIA / EMP submitted by PP to SEAC on 02.05.2025.

M/s. Sarvashiva Iron and Steel Private Limited is a new industrial unitat village-Doiadih, Block-Jhumri, District: Koderma, Jharkhand for the proposed production of MS Billets 3,00,000 TPA through the installation of 4x20T induction furnaces, a CCM of 2x2 Strand, a Radius-6/11, a Rolling mill to produce 2,90,500 TPA rolled product, and a Slag Crusher of 10 TPH.

Salient Feature of the Project

S. N	Parameters	Description
1	Identification of project	Project falls under Metallurgical Industries **(secondary metallurgical processing)** Item **3(a)** Metallurgical industries (ferrous & nonferrous)of the schedule of EIA notification of Sept 14, 2006 issued by **MOEF&CC.**
2	Brief description of nature of the project	The plant unit is proposed to produce production of MS Billets 3,00,000 TPA through the installation of 4x20T induction furnaces, a CCM of 2x2 Strand, a Radius-6/11, a Rolling mill to produce 2,90,500 TPA rolled product, and a Slag Crusher of 10 TPH.
3	**Salient Features of the Project**	
3.1	Proposed plant capacity	The production capacity of the industrial unit will be MS Billets 3,00,000 TPA through the installation of 4x20T induction furnaces, a CCM of 2x2 Strand, a Radius-6/11, a Rolling mill to produce 2,90,500 TPA rolled product, and a Slag Crusher of 10 TPH.
3.2	Total Plot Area	Total Plot Area ~5.09 Acer (3.35 Acre + Green belt area 1.74 Acre)

3.3	Location	At- Doiadih village, JhumriTelaiya, Dist. Koderma (Jharkhand)
3.4	Water requirement	Overall water requirement for the proposed project will be approx. 279 KLD out of which 219 KLD will be recirculate in the process and 60 KLD will be makeup water.
3.5	Source of water	Borewell and rain water during construction period.
3.6	Wastewater	A total of ~3.6 KLD/day of sewage will be generated. The wastewaters will be treated and entirely will be reused during the operational period.
3.7	Manpower	100 manpower will be required for the project development.
3.8	Electricity/Power requirement	The electrical power requirement will be ~22000 kVA. 1x 500 KVA DG Set will be installed for power back up.
3.9	Land form, Land use and land ownership	Private land, owned by M/s Sarvashiva Iron and Steel Private Limited.
4	Project cost	The estimated cost of the Project is approximately Rs. **95 Crs.**

Coordinates of the project :

Latitude	Longitude
24°25' 10.094"N	85°29' 12.474" E
24°25' 11.873"N	85°29' 13.913" E
24°25' 10.235"N	85°29' 17.752" E
24°25' 9.360"N	85°29' 17.554" E
24°25' 7.977"N	85°29' 21.224" E
24°25' 8.620"N	85°29' 21.563" E
24°25' 5.776"N	85°29' 23.708" E
24°25' 3.320"N	85°29' 26.418" E
24°25' 2.614"N	85°29' 26.051" E
24°25' 3.376"N	85°29' 24.865" E
24°25' 6.453"N	85°29' 20.829" E
24°25' 7.413"N	85°29' 19.502" E
24°25' 9.135"N	85°29' 14.816" E
24°25' 9.869"N	85°29' 13.405" E

LAND DETAILS:

Khata No.	Plot No.
02	17

Plant has obtained the Consent to Establish (CTE) vide Ref No. JSPCB/HO/RNC/CTE-16672396/2023/502 Dated6/07/2023 is hereby auto-renewed for the period from 12/06/2024 to 02/11/2024, dated 11/06/2024 for production of MS Billets 26400 TPA and Slag Crusher of 4800 TPA.

S.N.	Particulars	Proposed	After Installation of Plant Unit
Unit Processes/ Machinery			
1	Induction Furnace	4 x 20 Tones,	3,00,000 TPA MS Billets
2	Continuous Casting Machine (CCM)	2x2 Strand, Radius-6/11	
3	Rolling Mill	1 x 40 T	2,90,500 TPA rolled product
4	Slag Crusher	1 x 10 T	10 TPH
Other Items/ Requirement			
5	APCD- Bag-House Filter	1	
6	Sponge iron	816.8 TPD	
7	Ferro-alloys	153.15 TPD	
8	MS Scrap/Pig iron	51.05 TPD	
9	Ingots/billets (Only for rolling)	------	
Project Budget			
10	Fixed capital investment (Rs)	~95 Cr	
Water Requirement			
11	Makeup Water requirement	60 KLD /day	
12	Domestic water requirement	~5 KLD/day	
13	Domestic wastewater generation	~3.6 m3/day	
Manpower Requirement			
14	Total Skilled and non-skilled manpower	~100	
Solid waste			
15	Slag	142.94 TPD	
16	Mill Scale and other rejects	26.04 TPD	
17	Bag Filter Dust from the process	10.21 TPD	
18	Municipal Waste	45 kg/day	
Power			
19	DG Sets (For power back-up)	DG Set-1x500 KVA	
20	Power Requirement	~22000 KVA.	
Fuel			
21	High-Speed Diesel (HSD)	300 Lt max / day	
Ground Water Recharge			
22	Recharge pits	2 nos.	
Working Days			

23	No of working days of the Plant	345	

Raw Materials

Proposed Raw Materials Details

S.N.	Raw Materials	Total Proposed Requirement (TPD)	Mode of Transportation	Source of Raw Material	Distance (km)
1	Sponge Iron	816.8	Road	Local Plants in Koderma, GiridihHazaribagh.	10 to 90 Kms
2	Ferro alloy	153.15	Road		
3	MS Scrap	51.05	Road	In house or local plant in Koderma	10 Kms

MASS BALANCE OF THE STEEL MELTING SHOP

Sl.No	Input	Quantity TPD	Output	QuantityTPD
1	Sponge Iron	816.8	Billet	867.85
2	Ferroalloy	153.15	Process Loss	10.21
3	M S Scrap/Pig Iron	51.05	SlagGeneration	142.94
Total		**1021**	-	**1021**

Raw Materials Details- Rolling Mill

Raw Materials	Proposed Production	Source
M.S Billet	**3,00,000 TPA**	**Billets will be used for in- house rolling mill**

MASS BALANCE OF THE ROLLING MILL

Sl.No	Input	Quantity TPD	Output	QuantityTPD
1	Billet	868	Mill Scale @1%	8.68
			Trimming Reject@2%	17.36
			Rolled Product	842
Total			-	**290490 TPD with 345 working Day**

Total Water Requirement

Water requirement is fulfilled through bore well made at the plant area and from the rain water harvesting pond.

- Overall water requirement for the proposed project will be approx. **279 KLD.**
- Out of **279 KLD, 219**KLD will be recirculated in the process,
- **60 KLD** will be makeup water.

- The wastewaters will be treated and entirely reused.
- There is provision for ZLD, so, waste water will not be discharged in natural drains.

Water Requirement

Particulars	Recirculate Water (KLD)	Makeup Water (KLD)	Total Water Requirement (KLD)
Induction Furnace	**198**	**48**	**246**
Rolling Mill	**21**	**4**	**25**
Domestic & Greenbelt	-	**8**	**8**
Total	**219**	**60**	**279**

Power requirement for the Proposed Plant

The total power requirement for the unit is **22.0 MVA.** The total power demand of the plant will be met through Jharkhand BijliVitran Nigam Limited. DG Sets (**1x500 KVA**) will be installed for power back up.

Public Hearing Details:

S.N.	Particulars	Date and Description
1.	Date of advertisement	19th February, 2025. (PrabhatKhabar& Hindustan Times)
2.	Date of public hearing	21st March, 2025
3.	Place of public hearing	AnchalKaryalaya, Koderma, Dist.-Koderma,
4.	Officials in Public Hearing	1.**Mrs. PoonamKujur, ADM** (LR), Koderma District, (She was nominated by the District Commissioner (DC), Koderma (Jharkhand), Other key officials in attendance included: 2.**ShriJitendra Prasad Singh** (Regional Officer), State Pollution Control Board, Hazaribagh. 3.**ShriSumit Kumar Jha** (Deputy Environmental Engineering), State Pollution Control Board, Ranchi. 4.**ShriHaldhar Kumar Sethi** (Circle Officer), Koderma (Jharkhand).
5.	Public Attended public hearing	More than 100.

6	Main issue discussed in public hearing	Related to the project& its impact, Air pollution-controlled measures, Water Sprinkling on nearby roads, Medical Facility & treatment, Greenbelt / Plantation near the site Environmental management plan, CER activities, employment, education, etc.

EMP Budget:

S.N.	Description		Capital Cost (Lakhs)	Recurring Cost/annum (Lakhs)
1.	Air Pollution Control	Bag filter + Stack, etc.	55	7
2.	Noise Pollution Control	Landscaping, Greenbelt	8	2
3	Solid Waste Management	Slag & management, and others.	6	2
4	Environment Monitoring and Management	Online monitoring of air and water, Establishment of Laboratory. Third party investment for monitoring	7	4
5	RWH Pits (2 nos.)	Construction of Rain water Harvesting pits, etc.	4	0.5
6	Miscellaneous	Appointment of Consultants, occupational health & safety measure.	6	1
7.	Budget for Public Hearing			37
		Total	86	53.5

BUDGETARY PROVISION FOR PUBLIC HEARING ACTION PLAN

Area of Concern	Action Plan	Budgetary Provision (In Lakhs INR)	Time Frame (Year)		
			1st	2nd	3rd
Pollution Control	**Air Pollution Control Measures** Bag Filter System, Stack Emission Monitoring, Ambient Air Quality Monitoring, Fugitive Emission Control and Water Spraying System, Wastewater Management	**Covered under EMP Budget**	-	-	-
Greenbelt	**Tree Plantation**	**Rs. 15 lakhs**	**15 lakhs**	-	-

Employment Generation	Employment for locals	12 Lakhs	6.0 Lakhs	6.0 Lakhs	-
Safety cover to employees	Implementation comprehensive safety measures (personal protective equipment, training, emergency response plan	Covered under EMP Budget	-	-	-
Concern about health of local people	Health checkup and distribution	6 Lakhs	2 lakhs	2 lakhs	2 lakhs
Plantation	Provision of 1000 plant saplings with gabion and fund allocation for maintenance of the plants for 3 yrs @Rs 400 per plant	4 lakhs	2 lakhs	1.5lakhs	0.5lakh
	Total	37 lakhs	25 lakhs	9.5 lakhs	2.5 lakhs

DETAILS OF NEED BASED ACTIVITIES PROPOSED IN THE STUDY AREA

S.N..	Activity	Estimated Budget (in Lakhs INR)
1.	Training to the local women SHGs under NRLM for livelihood development	2.5
2.	Financial support in form of revolving funds for enterprise development to 5 SHGs (@ Rs 50000/ SHG) registered under NRLM scheme.	2.5
3.	Conducting Health Camps for villagers in the adjoining villages.	5.0
4.	Provision and support for computer literacy to students with emphasis on tribal students & girl candidates	5.0
5.	Distribution of 25 water filters for provision of safe drinking water.to the AWCs and Primary schools of the villages @ Rs 8000/filter	2.0
	Total	17 Lakhs

EXPENDITURE FOR WILDLIFE CONSERVATION PLAN (Amount in Lakhs)

S. N.	Proposed Conservation Activity	Capital Cost	1st year	2nd year	3rd year	4th year	5th Year
1	Improvement of Water Resources	9	3	2	1.5	1.5	1

2	**Greenbelt and Habitat Improvement** (6000 trees in four	10	4	2	2	1	1
3	**Training and Public Awareness Program Awareness for wildlife and Habitat Protection**	5	2	1	1	0.5	0.5
	Total	**24**	**9**	**5**	**4.5**	**3**	**2.5**

Details of Solid waste and Mode of disposal

S.N.	Units	Solid Wastes	Qty In TPA	Disposal Practice
1	Induction Furnace	Slag	145.6 TPD	It will be supplied to the authorized recyclers and slag will be used in land filling & road construction.
2	Rolling Mill	Mill Scale and other rejects	27.54 TPD	Sold to the authorized recyclers
3	Industrial Manpower (100 person)	MSW	45 kg/day	Disposed of as per Solid Waste Management Rules, 2016 & amended thereof.

Hazardous waste: Generation of "Used Oil", after the proposed expansion shall be approx. 10 kiloliters per annum and will be sold to the registered recyclers. Used oil will be collected in dedicated drums and stored on impervious concrete floor for maximum 90 days before disposal.

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	Private Land : Owned by Sarvashiva Iron and Steel Private Limited.
2	CO	:	The CO, Koderma vide letter no. 828, dated 11.05.2023 has mentioned the plot no. of the project is not recorded as "Jungle - Jhari" in R.S. Khatiyan.
3	DFO Wild Life	:	DFO Wildlife, Hazaribagh vide letter no. 1163, dated 14.06.2023 certified that the proposed project site is outside Eco Sensitive Zone of Koderma Wildlife Sanctuary.
4	DFO Territorial	:	DFO, Koderma Forest Division vide letter no. 2674, dated 21.06.2023 certified that the distance of reserved / protected forest is 380 meter from project site.

5	Consent to Establish (CTE)		i. **CTE** issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-16672396/ 2023/502, Dated: 31.08.2023. ii. **CTE** renewed by JSPCB vide App. no. 19536885, Dated: 11.06.2024.
6	Baseline Data Collection	:	1st October, 2023 and 31st December, 2023.
7	Public Hearing	:	Public Hearing conducted on 21.03.2025.
8	CGWA	:	No Objection Certificate for Ground Water Abstraction vide NOC no. NOC/IND/JH/2025/5017/N, dated 15.04.2025 valid up to 14.04.2028.

Based on the presentation made and information provided, the Committee decided that the proposal for Production of MS Billets 3,00,000 TPA through installing 4x20 T Induction Furnaces, CCM of 2x2 Strand, Radius – 6/11 along with rolling mill to produce 2,90,500 TPA rolled product and Slag Crusher of 10 TPH by M/s Sarvashiva Iron and Steel Private Limited, Village : Lalmandigtha, Gumo, Jhumri Telaiya, P.S. : Koderma, Distt. : Koderma, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – III along with following specific conditions :

I. The Wildlife Conservation Plan prepared is to be submitted to the competent authority for approval and evidence of the same is to be submitted to SEIAA prior to issuance of the EC. The Approved copy of Wildlife Conservation Plan shall be submitted to SEIAA/SEAC within 06 months of the grant of EC.
II. Maximum quantity of Rain Water Harvested shall be used within the plant permises and only surplus RWH water shall be recharged to ground.
III. No effluent to be discharged out side the plant premises.
IV. In compliance of OM no. F. No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
V. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.
VI. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.
VII. All raw material to be stored only under covered shed.
VIII. Trees should be developed & maintained not less than 33% of project area.

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6. **Nauaikola Sand Ghat in the river bed of Ajay of M/s Jharkhand State Mineral Development Corporation Ltd., Village : Nauaikola, Circle : Karmatand, Distt. : Jamtara, Jharkhand (6.28 Ha).**

(Proposal no.: SIA/JH/MIN/ 535981 /2025)

The consultant of the project requested for deferment of the consideration of the proposal as they did not have sufficient details for the presentation of proposal.

Hence, the project is deferred for consideration and it will listed for appraisal after request of PAs.

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7. **Stone Mine of M/s Jai Maa Serawali Stone Chips (Partner : Shri Amresh Yadav), Village : Rashida, Thana : Naudiha Bazar, Distt. : Palamau, Jharkhand (3.23 Ha).**

(Proposal no.: SIA/JH/MIN/ 513696 /2024)

During appraisal the PAs were unable to provide the compliance status of the conditions as stipulated in the previous EC issued by then DEIAA.

The PAs are required to submit Certified Compliance Report (CCR) from State Pollution Control Board.

The project will be taken up for consideration after submission of the same.

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8. **Sonatar Stone Mine of Shri Gopal Prasad Ray, Village : Sonatar, P.S. : Palajori, Distt. : Deoghar, Jharkhand (4.86 Ha).**

(Proposal no.: SIA/JH/MIN/ 513737 /2024)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Deoghar).

The project has been granted EC by DEIAA, Deoghar vide letter no. 32/M, dated 06.06.2017.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Deoghar which has been taken up for consideration on 07.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 932/M, dated 21.10.2024 by DMO, Deoghar is within the permissible limit of EC.

The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 1948, dated 22.10.2024.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 444352 Cum (Max.) / 129798.00 Tons.

<u>Project and Location Details:</u>

Sl	Parameter		Details
1	Project Name	:	Sonatar Stone Mine Project Type – Stone Mine

2	Lessee:	:	Shri Gopal Prasad Ray	
3	Lessee Address	:	Shri Gopal Prasad Ray S/o Late Janardan Prasad Ray Address: At- Village- Baratand, P.O .- Sarsa, Thana- Masalia, Dist- Dumka (Jharkhand)	
4	Lease Area	:	4.86 Ha.	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs.96.09Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 7.296 Lakhs	Recurring Cost: Rs. 5.761 Lakhs
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	60,00,062Tons as per scheme	
10	Mine Life	:	Upto the lease period i.e. 27/06/2018 to 26/06/2028.	
11	Man power	:	64 Person	
12	Water Requirement	:	6.80 KLD (Drinking: 0.96 KLD, Dust Suppression: 0.44 KLD, Plantation: 5.40 KLD)	
13	Water Source	:	From Nearby villages tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	Ajay River – 9.12Km in West direction	
17	Nearest Habitation	:	Sonatar Village – 0.98 Km	
18	Nearest Rail Station	:	Nearest railway station Deoghar Railway station 40.29 km NW direction from the lease area.	
19	Nearest Air Port	:	Nearest Airport is Deoghat International Airport, Deoghar at 36.24 km NW direction from the Lease area.	
20	Nearest Forest	:	DFO (Deoghar) letter no.- 02-02 V. BHU./01(03)15/20162839 Dated: 26.08.2016 is certified that the distance of reserved / protected forest is more than 250 m from proposed project site.	
21	Road & Highways	:	Nearest road Sonatar-Sirsia village road 0.11 km south direction from the lease area this road after 1.96 km North-East direction connect to MDR sarath road and this road after 9.76 km NW direction connect NH-114A	

CO-ORDINATES

Point ID	Latitude	Longitude
P1	24°10'16.01"N	86°54'20.87"E
P2	24°10'15.95"N	86°54'19.86"E
P3	24°10'16.56"N	86°54'17.07"E

P4	24°10'19.82"N	86°54'18.33"E
P5	24°10'21.07"N	86°54'15.53"E
P6	24°10'17.56"N	86°54'13.65"E
P7	24°10'17.78"N	86°54'13.08"E
P8	24°10'23.71"N	86°54'16.18"E
P9	24°10'23.13"N	86°54'20.43"E
P10	24°10'22.08"N	86°54'21.15"E
P11	24°10'20.97"N	86°54'23.18"E
P12	24°10'21.10"N	86°54'24.14"E
P13	24°10'20.08"N	86°54'23.60"E
P14	24°10'18.76"N	86°54'23.00"E
P15	24°10'18.12"N	86°54'22.50"E
P16	24°10'17.23"N	86°54'22.13"E
P17	24°10'16.50"N	86°54'21.37"E

LAND DETAILS

Khata no.	Plot no.
44	01 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	i. The Letter of Intent (LoI) has been issued by AMO, Deoghar vide letter no. 1517/M, dated 19.10.2016. ii. Lease deed : 27.06.2018 to 26.06.2028.
2	CO	:	The CO, Palojori vide letter no. 879, dated 26.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 922/M, dated 17.10.2024 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2331, dated 19.11.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 2839, dated 26.08.2016 certified that the distance of forest land is more than 250 meter from proposed project boundary.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Sl.

			no. 10, Page no. 26).
7	Gram Sabha	:	Gram Sabha conducted on 21.09.2016.
8	Scheme / Mine Plan Approval	:	i. Mining plan approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Letter No. 392/DDM, dated 20.10.2016. ii. Mining scheme approved by Additional Director, Geology, Hazaribag vide Letter No. G/2022-23-270, dated 30.09.2022.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Deoghar vide letter no. 32/M, dated 06.06.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 1948, dated 22.10.2024.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-3428969 /2018 /1010, dated 28.09.2018.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. : JSPCB/HO/RNC/CTO-14372611 /2022/1778, dated 24.12.2022.
13	Production Report	:	Production report issued by DMO, Deoghar vide memo no. 932/M, dated 21.10.2024.
14	Qualified Person	:	Shri A.K. Sinha vide letter dated 07.05.2025 affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	3.78Ha.	Life of Mine – Upto the lease period i.e. 27/06/2018 to 26/06/2028.
3	Waste Generation	:	51052 Cum. O.B (During Scheme plan period)	
4	Stripping Ratio	:	1:0.4	
5	Working Days	:	300	
6	Benches: size	:	5 m x 5 m	
7	Highest Elevation of	:	224 m AMSL	

	Mine		
8	Ground Level Elevation	:	219 m AMSL
9	Ultimate Pit Depth	:	182 m AMSL
10	Water Table	:	Collar Height – 169.28m AMSL (During pre-monsoon 161.23 m AMSL) (During post-monsoon 165.98 m AMSL)
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	162 kg Slurry explosives/day (will be obtain from licence Vendors)
13	Diesel/Fuel requirement	:	HSD – 593liters / day (177.9 KL/year)

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum	T.F.	Tonnes	Cum
Development Year (2022-2023)	4,44,352	2.7	11,99,753	51,052
Development Year (2023-2024)	4,22,805	2.7	11,41,576	0
Development Year (2024-2025)	4,38,295	2.7	11,83,399	0
Development Year (2025-2026)	4,06,188	2.7	10,96,710	0
Development Year (2026-2027)	4,44,290	2.7	11,99,583	0
Total	**21,55,933**	**2.7**	**58,21,021**	**51,052**

Land Use

SL	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End Of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Mining Area	0.31	3.47	3.78	Water Body

2	Main Road	0.12	0.00	0.12	Road
3	Safety Zone	0.96	0.00	0.96	Plantation
4	Unutilized	3.47	0.00	0.00	-
	TOTAL	**4.86**	**3.47**	**4.86**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety zone		0.96 Ha	1536
2	Along Approach Road		0.110 km	144
TOTAL				**1536**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 800 X 144 = Rs 1,15,200 (Gabion Plantation along approach road) 400 X 1536 = Rs.6,14,400 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	7,29,600	72,960
3	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) - Rs.12,420 • Noise 24 hrs (3 point) -	--	2,03,220

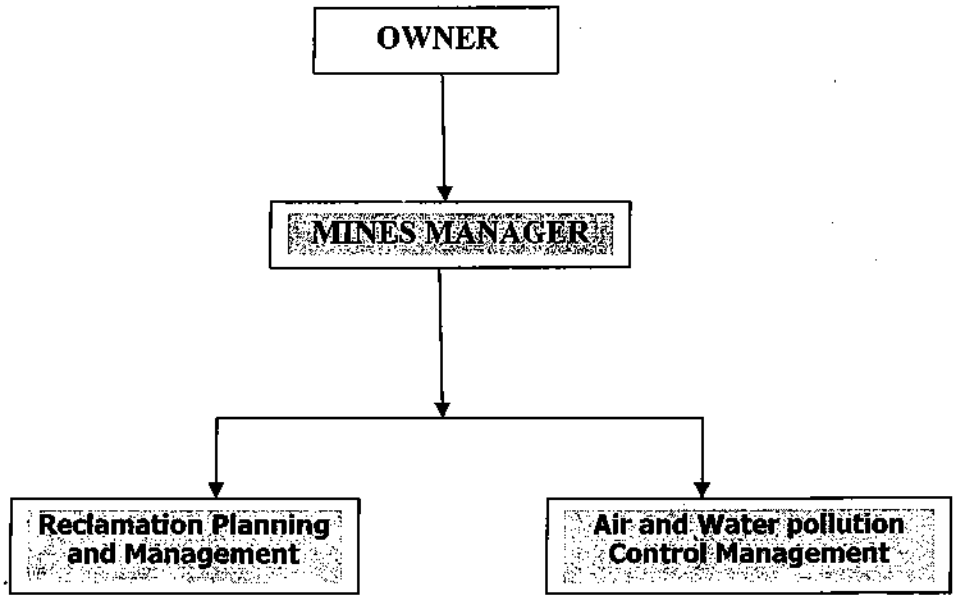
Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**		
Total		**7,29,600**	**5,76,180**

Solid Waste Management

51052 Cum. O.B shall be generated during the scheme period which shall be used in backfilling the mine void.

Environment Monitoring Programme:

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 stations	6 Monthly



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within

		last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	**4**	**3**	**2**	1
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12

3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.

- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.

g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Sonatar Stone Mine of Shri Gopal Prasad Ray, Village : Sonatar, P.S. : Palajori, Distt. : Deoghar, Jharkhand (4.86 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.
II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged

photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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9. **Modikola Stone Mine of M/s Shiv Shakti Stone Works (Partners : (i) Shri Sankar Kumar (ii) Smt. Nutoan Kumari (iii) Shri Chandra Bhushan), Village : Modikola, Thana : Ranga, Distt. : Sahibganj, Jharkhand (3.07 Ha).**

(Proposal no.: SIA/JH/MIN/ 520608 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/114(M), dated 19.03.2018.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 07.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ · All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 1297/M, dated 06.12.2024 by DMO, Sahibganj is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1273, dated 07.05.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 86517 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Modikola Stone Deposit Project Type – Stone Mine	
2	Lessee:	:	M/S Shiv Shakti Stone Works Partners- 1. Sri Sankar Kumar, 2. Smt. Nutoan Kumari, 3. Sri Chandra Bhushan	
3	Lessee Address	:	M/S Shiv Shakti Stone Works Partners- 1. Sri Sankar Kumar, 2. Smt. Nutoan Kumari, 3. Sri Chandra Bhushan Village- Ratanpur Po+Ps- Barharwa District - Sahebganj, Jharkhand	
4	Lease Area	:	3.07 Ha.	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 80.19Lakhs	Recurring Cost: Rs. 7.89 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 9.64 Lakhs	Recurring Cost: Rs. 5.89 Lakhs
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	6,47,731 Tons as per scheme	

10	Mine Life	:	Upto the lease period i.e. 25.02.2019 to 24.02.2029.
11	Man power	:	18 Person
12	Water Requirement	:	6.84 KLD (Drinking: 0.36 KLD, Dust Suppression: 0.96 KLD, Plantation: 5.52 KLD)
13	Water Source	:	From Nearby villages tankers
14	DG Set / power	:	20 KVA D.G. Set proposed
15	Crusher	:	Yes (60 TPH)
16	Nearest Water Body	:	River Gumani – 5 Km aerial distance.
17	Nearest Habitation	:	Modikola Village – ~~0.182 Km~~
18	Nearest Rail Station	:	Barharwa Railway station is at 5.07 km (aerial distance).
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 112 km (aerial direction).
20	Nearest Forest	:	DFO (Sahibganj) letter no.- 895 Dated: 05/05/2017 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.
21	Road & Highways	:	Nearest highway is NH-80 which is near about 6.5 km away from applied area.

CO-ORDINATES

Point ID	**Latitude**	**Longitude**
1	24°50'27 .44" N	87°43' 34.56" E
2	24°50'32 .74" N	87°43' 38.24" E
3	24°50'36 .65" N	87°43' 31.79" E
4	24°50'34 .84" N	87°43' 29.75" E

LAND DETAILS

Khata no.	**Plot no.**
55	1 (P), 2(P), 3, 4, 5, 6, 7, 8 & 9
44	10 (P) & 11
75	14
28	21, 22 & 23

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 25.02.2019 to 24.02.2029.
2	CO	:	The CO, Patna, Sahibganj vide memo no. 602/Ra., dated 27.11.2024 has mentioned the plot no. of the project is not

			recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1298/M, dated 06.12.2024 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 105, dated 13.01.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 895, dated 05.05.2017 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 102, Page no. 140).
7	Gram Sabha	:	Gram Sabha conducted on 04.07.2017.
8	Scheme / Mine Plan Approval	:	i. Mining plan approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 392/DDM, dated 17.08.2017. ii. Mining scheme approved by DMO, Sahibganj vide letter no. 175/M, dated 17.02.2024.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/114(M), dated 19.03.2018.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1273, dated 07.05.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-5860262 /2019/467, dated 06.08.2019.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTO-19155881 /2024/1053, dated 26.06.2024.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 1297/M, dated 06.12.2024.
14	Grid Certificate	:	DMO, Sahibganj vide memo no. 505/M, dated 19.03.2025 certified that the proposed project is outside of Redzone Grid 1, 3, 4 & 7.
15	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	2.09Ha.	Life of Mine – Upto the lease period i.e. 25/02/2019 to 24/02/2029.
3	Waste Generation	:	11593 Cum. O.B (During Scheme plan period)	
4	Stripping Ratio	:	01:0.03	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Highest Elevation of Mine	:	46 m AMSL	
8	Ground Level Elevation	:	34 m AMSL	
9	Ultimate Working Depth	:	14 m AMSL	
10	Water Table	:	10 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	63 kg Slurry explosives/day	
13	Diesel/Fuel requirement	:	HSD – 245.58 liters / day (73.67 KL/year)	

Production Details

Years	Production of stone in Cum./Year	Production of stone in Tonnes/Year	OB Removal in Cum.
1st	28838	86515	1519
2nd	28834	86501	1518
3rd	28785	86355	1515
4th	28824	86471	1517
5th	28814	86440	1516
Total	**144095**	**432282**	**7585**

Land Use

Type Of Land	Present Land Use (In Ha)	At The End Of Plan Period (In Ha)	At The End Of Mine (In Ha)	Conceptual Period (In Ha)		
				Public Use	Water Body	Plantation
Quarry	1.20	2.02 (Including Backfill 0.13 Ha)	2.09 (Including Backfill 0.13 Ha)	--	0.94	1.15 Ha (Dead Bench Plantation)

Greenbelt Within Safety Barrier	Nil	0.98	0.98	--	--	0.98
Road	0.07	Nil	Nil	Nil	--	--
Total Area in Use	**1.27**	**3.00**	**3.07**	**--**	**0.94**	**2.13**
Balanced Area Unused	1.80	0.07	Nil	--	--	--
Total Lease Area	**3.07**	**3.07**	**3.07**	**3.07**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green belt/Safety zone		0.95 Ha	1520
2	Along Approach Road		0.240 km	320
TOTAL				**1840**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 320 X 800 = Rs 2,56,000 (Gabion Plantation along approach road)	8,64,000	86400

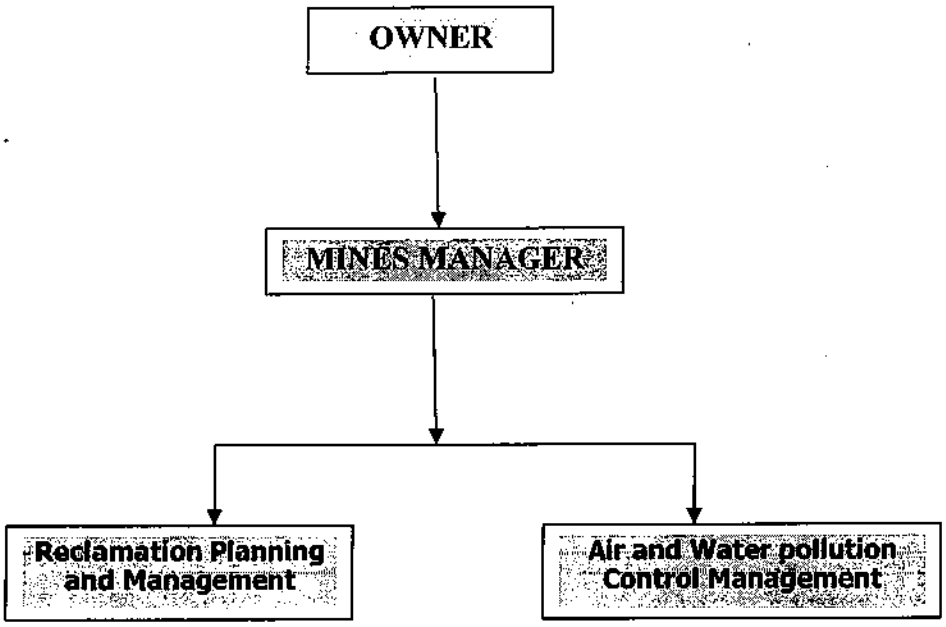
Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	1502 X 400 = 6,08,000 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)		
3.	Fencing	100000	--
3	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**9,64,000**	**5,89,620**

Solid Waste Management

7585Cum. O.B shall be generated during the scheme period which shall be used in backfilling the mine void.

Environment Monitoring Programme:

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 stations	6 Monthly



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank	L5 (Very	L4 (Remote)	L3	L2	L1

(Likelihood x Consequence)	Unlikely)		(Occasional)	(Probable)	(Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.

- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.

- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.

- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Modikola Stone Mine of M/s Shiv Shakti Stone Works (Partners : (i) Shri Sankar Kumar (ii) Smt. Nutoan Kumari (iii) Shri Chandra Bhushan),

Village : Modikola, Thana : Ranga, Distt. : Sahibganj, Jharkhand (3.07 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

10. Dhatapara Stone Mine of Md. Iqbal, Village : Dhatapara, P.S. : Kotalpokhar, Distt. : Sahibganj, Jharkhand (2.428 Ha).

(Proposal no.: SIA/JH/MIN/ 523822 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2016-18/226, dated 28.08.2017.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This Is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 07.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ · All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 1216/M, dated 14.11.2024 by DMO, Sahibganj is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1274, dated 07.05.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 37,032 Cum. / 1,11,096 Tons

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Dhatapara Stone Mine Project Type – Stone Mine

2	Lessee:	:	Md. Iqbal	
3	Lessee Address	:	Md. Iqbal At- Gandhi Mohalla, P.O.- Kotalpokhar, Thana- Kotalpokhar, District-Sahibgsanj, Jharkhand	
4	Lease Area	:	2.428 Ha. (At Mouza- Dhatapara, P.O.- Kotalpokhar, Thana- Kotalpokhar, District- Sahibganj, Jharkhand)	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs.41.09Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 9.032 Lakhs	Recurring Cost: Rs. 5.835 Lakhs
8	New or Expansion	:	New (Re-appraisal fo DEIAA EC)	
9	Mineable Reserves	:	9,66,435 Tons as per scheme	
10	Mine Life	:	Upto the lease period i.e. 19/02/201/ to 18/02/2027.	
11	Man power	:	32 Person	
12	Water Requirement	:	6.51 KLD (Drinking: 0.48 KLD, Dust Suppression: 1.6/ KLD, Plantation: 4.36 KLD)	
13	Water Source	:	From Nearby villages tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	Ganga River – 13.59 Km in East direction(Aerial distance).	
17	Nearest Habitation	:	Sahibganj – 53.89 Km in NW direction	
18	Nearest Rail Station	:	Kotalpukur Railway Station is 3.87 km (aerial distance) in South-East direction.	
19	Nearest Air Port	:	Deoghar Airport at 115.73 km South-West Direction.	
20	Nearest Forest	:	DFO (Sahibganj) letter no.- 76 Dated: 10/01/2016 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.	
21	Road & Highways	:	Approach road 418m connecting village road at South East direction.	

CO-ORDINATES

Point ID	(GPS Co-ordinates)
1	Lat.- 24°45'48.36" N to 24°45'54.64" N
2	Long.- 87°47'41.65" E to 87°47'48.97" E

LAND DETAILS

Khata no.	Plot no.
31	442
51	444 (P) & 350
76	344
01	443
10	349

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 19.02.2017 to 18.02.2027.
2	CO	:	The CO, Barharwa, Sahibganj vide memo no. 1027/Ra., dated 28.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 692/M, dated 30.07.2024 certified that 01 other mining lease area (6.00 Acre) exists within 500 meters radius from proposed project site and total area is 12.00 Acre.
4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2676, dated 19.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 76, dated 10.01.2016 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 66, Page no. 136).
7	Gram Sabha	:	Gram Sabha conducted on 22.09.2016.
8	Scheme / Mine Plan Approval	:	i. Mining plan approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Letter No. 574/DDM, dated 04.09.2015. ii. Mining scheme approved by DMO, Sahibganj vide letter no. 1466/M, dated 30.12.2020.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2016-18/226, dated 28.08.2017.

10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1274, dated 07.05.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-2195889 /2018/856, dated 15.08.2018.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTO-20896829 /2024/2037, dated 29.12.2024.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 1216/M, dated 14.11.2024.
14	Grid Certificate	:	DMO, Sahibganj vide memo no. 251/M, dated 11.02.2025 certified that the proposed project is outside of Redzone Grid 1, 3, 4 & 7.
15	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	1.868Ha.	Life of Mine – Upto the lease period i.e. 19/02/2017 to 18/02/2027.
3	Waste Generation	:	15922 Cum. O.B (During Scheme plan period)	
4	Stripping Ratio	:	01:0.03	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Highest Elevation of Mine	:	45 m AMSL	
8	Ground Level Elevation	:	15 m AMSL	
9	Ultimate Pit Depth	:	15 m AMSL	
10	Water Table	:	Collar Height – 09m AMSL (During Post Monsoon 07m AMSL During Pre Monsoon 03m AMSL)	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	46 kg Slurry explosives/day (Will be obtain from local vendors)	
13	Diesel/Fuel requirement	:	HSD – 232 liters / day (69.6 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum	T.F.	Tonnes	Cum
6th	37012	3	111036	7750
7th	37032	3	111096	0
8th	37009	3	111027	0
9th	37021	3	111063	0
10th	37020	3	111060	8172
Total	**185094**	3	**555282**	15922

Land Use

SL	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End Of Life of Mine (Ha)
1	Quarry including Road & Backfilling	1.00	1.66	1.868
2	Safety Barrier/Plantation	0.56	0.56	0.56
3	Existing Dump	0.06	-	-
4	Road	0.02	0.01	-
5	Total area in Use	1.64	2.23	2.428
6	Balance area in Use	0.788	0.198	0.000
	Total Lease Area	**2.428**	**2.428**	**2.428**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.56 Ha	896
2	Along Approach Road		0.418 km	556
TOTAL				**1,452**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

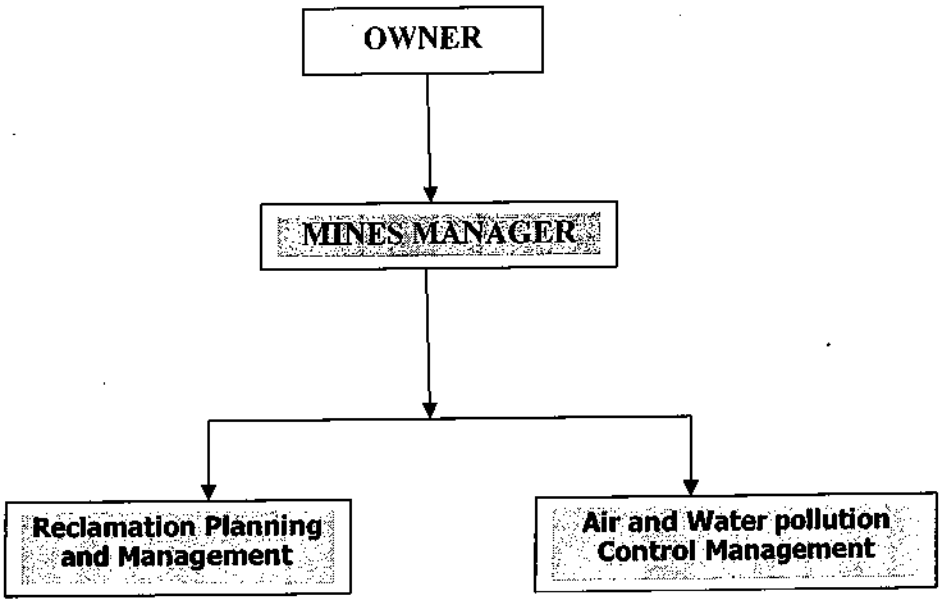
Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 800 X 556 = Rs. 4,44,800 (Gabion Plantation along approach road) 400 X 896 = Rs. 3,58,400 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	8,03,200	80,320
3	Fencing	100,000	-
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) - Rs.12,420 • Noise 24 hrs (3 point) - Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220**		2,03,220
Total		**9,03,200**	**5,83,540**

Solid Waste Management

7961Cum. O.B shall be generated during the scheme period which shall be used in backfilling the mine void.

Environment Monitoring Programme:

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 stations	6 Monthly



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by	Very	Minor	20

		hitting by loading material, Exposure to Dust	Unlikely		
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.
While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.

- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated

12.12.18 decided that the proposal for Dhatapara Stone Mine of Md. Iqbal, Village : Dhatapara, P.S. : Kotalpokhar, Distt. : Sahibganj, Jharkhand (2.428 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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11. **Borna Stone Mine of M/s Rajan Stone Works (Prop. : Shri Rajan Kumar), Village : Borna, Thana : Ranga, Distt. : Sahibganj, Jharkhand (3.51 Ha).**

(Proposal no.: SIA/JH/MIN/ 533820 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/273, dated 16.11.2017.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 07.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 517/M, dated 20.03.2025 by DMO, Sahibganj is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1275, dated 07.05.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 129789 Tons
As per EC: 129519 TPA
Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Borna Stone Mine Project Type – Stone Mine

2	Lessee:	:	M/s Rajan Stone Works Proponent Sri Rajan Kumar	
3	Lessee Address	:	M/s Rajan Stone Works Proponent Sri Rajan Kumar At.: Ratanpur, P.O + P.S.: Barharwa, Dist.: Sahebganj, Jharkhand	
4	Lease Area	:	3.51 Ha.	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs.11Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 9.428 Lakhs	Recurring Cost: Rs. 5.925 Lakhs
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	1306882.89 Tons as per scheme	
10	Mine Life	:	Upto the lease period i.e. 20/08/2016 to 19/08/2026.	
11	Man power	:	17 Person	
12	Water Requirement	:	6.95 KLD (Drinking: 0.255 KLD, Dust Suppression: 0.784 KLD, Plantation: 5.92 KLD)	
13	Water Source	:	From Nearby villages tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	Gumani river - 1.3 km W direction.	
17	Nearest Habitation	:	Borna Village – 0.81 Km	
18	Nearest Rail Station	:	Barharwa Railway station is at 5.50 km (aerial distance).	
19	Nearest Air Port	:	Deoghar Airport at 111.88 km SW direction (aerial distance).	
20	Nearest Forest	:	DFO (Sahibganj) letter no.- 2057, Dated- 07-11-2015certified that the distance of reserved / protected forest is 400 m from proposed project site.	
21	Road & Highways	:	The NH-133A, Harinpur-Barharwa Road is crossing on the eastern from village road. Side at a distance of about 3.2km from the lease area & easily approachable.	

CO-ORDINATES

Point ID	**Latitude**	**Longitude**
1	24°50' 34.926" N	87°43' 16.396" E
2	24°50' 34.862" N	87°43' 16.966" E
3	24°50' 34.536" N	87°43' 17.585" E
4	24°50' 33.402" N	87°43' 17.675" E
5	24°50' 31.718" N	87°43' 18.009" E

6	24°50' 31.441" N	87°43' 20.301" E
7	24°50' 29.892" N	87°43' 20.275" E
8	24°50' 29.365" N	87°43' 18.731" E
9	24°50' 28.621" N	87°43' 19.178" E
10	24°50' 27.001" N	87°43' 19.679" E
11	24°50' 26.258" N	87°43' 19.656" E
12	24°50' 25.742" N	87°43' 20.052" E
13	24°50' 25.702" N	87°43' 18.939" E
14	24°50' 26.323" N	87°43' 18.926" E
15	24°50' 26.793" N	87°43' 17.142" E
16	24°50' 26.115" N	87°43' 17.111" E
17	24°50' 25.482" N	87°43' 17.279" E
18	24°50' 24.889" N	87°43' 14.836" E
19	24°50' 26.757" N	87°43' 14.472" E
20	24°50' 26.892" N	87°43' 14.756" E
21	24°50' 27.499" N	87°43' 14.523" E
22	24°50' 27.921" N	87°43' 13.763" E
23	24°50' 29.900" N	87°43' 13.904" E
24	24°50' 31.630" N	87°43' 14.112" E
25	24°50' 33.075" N	87°43' 15.149" E
26	24°50' 34.101" N	87°43' 15.764" E

LAND DETAILS

Khata no.	Plot no.
18	52 (P)
03	53 & 54
19	55, 56, 58, 60 & 61
49	57
26	59
50	249, 250 & 251
45	252

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 20.08.2016 to 19.08.2026.
2	CO	:	The CO, Patna, Sahibganj vide memo no. 03/Ra., dated 17.08.2023

			has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster & Grid Certificate	:	DMO, Sahibganj vide memo no. 518/M, dated 20.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also certified that the proposed project is outside of Redzone Grid 1, 3, 4 & 7.
4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 33, dated 04.01.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 2057, dated 07.11.2015 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 23, Page no. 131).
7	Gram Sabha	:	Gram Sabha conducted on 24.07.2016.
8	Scheme / Mine Plan Approval	:	i. Mining plan approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 541/DDM, dated 18.08.2015. ii. Modified Mining plan approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 358/DDM, dated 29.08.2019. iii. Mining scheme approved by DMO, Sahibganj vide Letter No. 800/M, dated 22.08.2024.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/273, dated 16.11.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1275, dated 07.05.2025.
11	NOC / Consent to Establish (CTE)	:	NOC / CTE issued by JSPCB vide Ref. No. PC/NOC/DUM/786/2012-B-1623, dated 27.02.2013.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. No. JSPCB/RO/DMK/CTO-18879720 /2024/106, dated 12.04.2024.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 517/M, dated 20.03.2025.
14	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and

			affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	3.10 Ha	Life of Mine - Upto the lease period i.e. 20/08/2016 to 19/08/2026.
3	Waste Generation	:	10238.80 Cum. O.B (During Scheme plan period)	
4	Stripping Ratio	:	01:0.03	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Highest Elevation of Mine	:	131 m AMSL	
8	Ground Level Elevation	:	110 m AMSL	
9	Ultimate Pit Depth	:	95 m AMSL	
10	Water Table	:	82.66m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	10.63 kg Slurry explosives/day (Will be obtain from licence vendors)	
13	Diesel/Fuel requirement	:	HSD – 231.72 liters / day (69.516 KL/year)	

Production Details

Years	Production of stone in Cum/Year	Production of stone in Tonnes/Year	Removal of Soil in m^3
1st	48070.00	129789.00	2530.00
2nd	47902.80	129337.56	6657.20
3rd	19980.40	53947.08	1051.60
Total	**115953.20**	**313073.64**	**10238.80**

Land Use

Sl. No.	Pattern	Land Use Existing (Ha)	At the end of plan period (Ha.)	At Conceptual period (Ha.)	Usage
1	Quarry	2.90	3.10 (0.22ha area shall be backfilled, 1.068 ha area shall be left as water reservoir and 1.812 ha left as dead	3.10 (0.22ha area shall be backfilled, 1.068 ha area shall be left as water reservoir and 1.812 ha left as dead	

			benches)	benches)	Water body
2	Road	0.02	0.00 (Comes under quarry)	0.00 (Comes under quarry)	-
3	Safety Zone	0.41 (Out of 0.740 ha, 0.33 ha comes under quarry)	0.41 (Out of 0.740 ha, 0.33 ha comes under quarry)	0.41 (Out of 0.740 ha, 0.33 ha comes under quarry)	Plantation
4	Total	3.33	3.51	3.51	-
5	Unused area	0.38	0.00	0.00	
Total lease area	**3.51**				

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green belt/Safety zone		0.41 Ha	1025
2	Along Approach Road		0.196 km	260
TOTAL				**1285**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 260 X 800 = Rs 2,08,000 (Gabion Plantation along approach road) 1025 X 400 = 4,10,000 (Plantation within lease area)	6,18,000	61,800

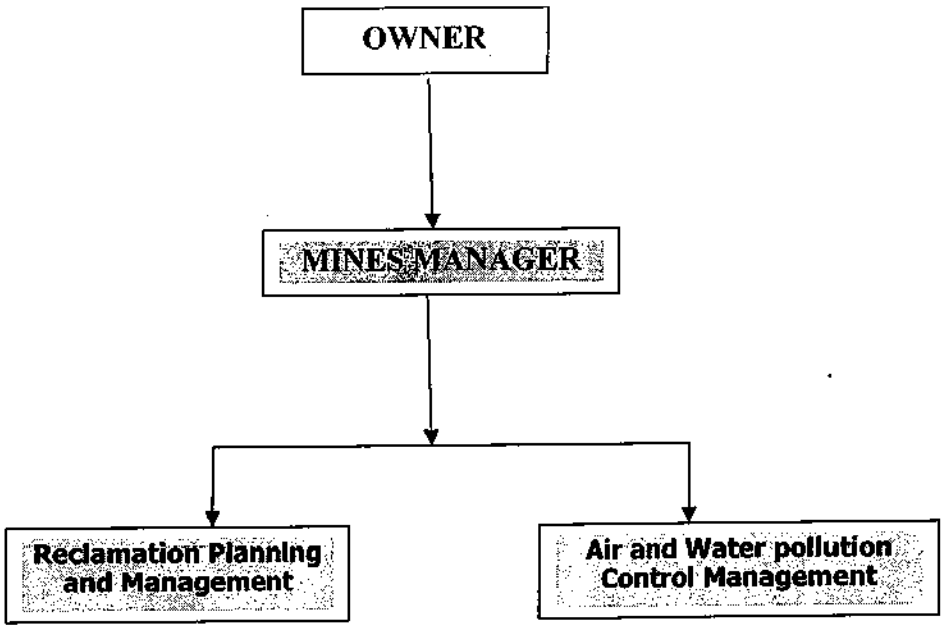
Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	(also includes Fertilizer, Pesticides, Maintenance)		
3	Fencing	1,00,000	--
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) - Rs.12,420 • Noise 24 hrs (3 point) - Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**7,18,000**	**5,65,020**

Solid Waste Management

10238.00 Cum. O.B shall be generated during the scheme period which shall be used in backfilling the mine void.

Environment Monitoring Programme:

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 stations	6 Monthly



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.

- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an

interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Borna Stone Mine of M/s Rajan Stone Works (Prop. : Shri Rajan Kumar), Village : Borna, Thana : Ranga, Distt. : Sahibganj, Jharkhand (3.51 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. **During appraisal it was noticed that the project authorities have carried out mining activities in the safety zone to the extent of 0.33 Ha out of total safety zone area of 0.74 Ha. Accordingly, the DMO may initiate suitable action against the PAs.**
II. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.
III. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and

the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

IV. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

V. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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12. Borna Stone Mine of M/s Shiv Shakti Stone Works (Prop. : Shri Sankar Kumar), Village : Borna, Thana : Ranga, Distt. : Sahibganj, Jharkhand (1.62 Ha).

(Proposal no.: SIA/JH/MIN/ 523719 /2025)

The PA vide letter dated 08.05.2025 requested for withdrawal of the proposal due to the personal reason.

Hence, the Committee recommends the project may be delisted.

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13. Gilamari Stone Deposit of M/s Prateek Stone Works (Prop. : Shri Pintu Kumar Pandit), Village : Gilamari, Thana : Mirzachouki, Distt. : Sahibganj, Jharkhand (3.38 Ha).

(Proposal no.: SIA/JH/MIN/ 518075 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2016-17/120, dated 26.12.2016.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 07.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 1391/M, dated 14.12.2024 by DMO, Sahibganj is within the permissible limit of EC.

The compliance report of previous EC has been issued by JSPCB, Ranchi vide memo no. 837, dated 22.03.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 242088 Tons
Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Gilamari Stone Deposit Project Type – Stone Mine

2	Lessee:	:	M/S Prateek Stone Works Proponent: Sri Pintu Kumar Pandit	
3	Lessee Address	:	Sri Pintu Kumar Pandit R/o – Vill+P.O.- Mirzachouki, P.S.- Mirzachouki, District- Sahibganj, Jharkhand	
4	Lease Area	:	3.38 Ha.	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs.100.49Lakhs	Recurring Cost: Rs. 18.59 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 8.73 Lakhs	Recurring Cost: Rs. 5.90 Lakhs
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	2421741.00 Tons as per scheme	
10	Mine Life	:	Upto the lease period i.e. 28/01/2017 to 27/01/2027.	
11	Man power	:	36 Person	
12	Water Requirement	:	7.08 KLD (Drinking: 0.54 KLD, Dust Suppression: 1.8 KLD, Plantation: 4.74 KLD)	
13	Water Source	:	From Nearby villages tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	River ganga – 12.92 Km in E direction.	
17	Nearest Habitation	:	Gilamari Village – 0.59 Km	
18	Nearest Rail Station	:	Mirzachouki Railway Station at aerial distance of 12 km at North direction.	
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 119.62 km	
20	Nearest Forest	:	DFO (Sahibganj) letter no.- 2322, dated 27/12/2015 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.	
21	Road & Highways	:	Nearest highway is NH-80 which is near about 12 km away from applied area.	

CO-ORDINATES

Point ID	**Latitude**	**Longitude**
1	25°13'43.68"	87°31'08.04"
2	25°13'42.82"	87°31'09.91"

3	25°13'44.42"	87°31'10.55"
4	25°13'42.82"	87°31'13.85"
5	25°13'41.63"	87°31'17.46"
6	25°13'40.75"	87°31'16.87"
7	25°13'41.02"	87°31'15.52"
8	25°13'40.42"	87°31'14.77"
9	25°13'38.87"	87°31'13.64"
10	25°13'37.40"	87°31'12.65"
11	25°13'37.93"	87°31'10.91"
12	25°13'40.05"	87°31'07.64"

LAND DETAILS

Khata no.	Plot no.
15	154 & 155

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 28.01.2017 to 27.01.2027.
2	CO	:	The CO, Mandro vide memo no. 332/Ra., dated 17.05.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1215/M, dated 13.11.2024 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1299, dated 28.06.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 2322, dated 27.12.2015 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 15, Page no. 130).
7	Gram Sabha	:	Gram Sabha conducted on 05.10.2015.
8	Scheme / Mine Plan Approval	:	i. Mining plan approved by DMO, Sahibganj vide Memo No. 2124/M, dated 10.08.2016. ii. Mining scheme approved by DMO, Sahibganj vide Letter

			No. 474/M, dated 12.05.2021.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2016-17/120, dated 26.12.2016.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by JSPCB, Ranchi vide memo no. 837, dated 22.03.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-1369449 /2017/315, dated 03.07.2017.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. No. JSPCB/RO/DMK/CTO-18445959 /2024/114, dated 17.04.2024.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 1391/M, dated 14.12.2024.
14	Grid Certificate	:	JSPCB, Ranchi vide memo no. 837, dated 22.03.2025 certified that the proposed project is situated outside the negative supporting carrying capacity Grid 1, 3, 4 & 7.
15	Qualified Person	:	Shri J.P. Bhattacharya was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	2.710 Ha	Life of Mine -Upto the lease period i.e. 28/01/2017 to 27/01/2027.
3	Waste Generation	:	28116 Cum. O.B (During Scheme plan period)	
4	Stripping Ratio	:	01:0.1	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Highest Elevation of Mine	:	196 m AMSL	
8	Ground Level Elevation	:	154 m AMSL	
9	Ultimate Pit Depth	:	130 m AMSL	
10	Water Table	:	117.59m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	81 kg Slurry explosives/day (will be obtain from licenced Vendors)	
13	Diesel/Fuel requirement	:	HSD – 288 liters / day (86.4 KL/year)	

Production Details

Years	Production of stone in Tonnes/Year	Production of O.B in Cum/Year
1st	242077	24840
2nd	242064	3276
3rd	242076	--
4th	242088	--
5th	242036	--
Total	**1210341**	**28116**

Land Use

SL	Pattern	Existing Land Use (Ha)	Proposed Land Use (Ha)	Conceptual Land Use (Ha)	Area to be converted in the conceptual period.
1	Quarry	1.183	1.999	2.710	Waterbody
2	Safety Barrier/Green Belt	0.610	0.610	0.610	Greenbelt
3	Total Area in use	1.843	2.880	3.320	
4	OB Dump	--	0.211	--	
5	Balance	1.537	0.500	0.060	Greenbelt
	TOTAL	**3.38**	**3.38**	**3.38**	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green belt/Safety zone		0.670 Ha	1072
2	Along Approach Road		0.452 km	604
TOTAL				**1676**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development,

Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

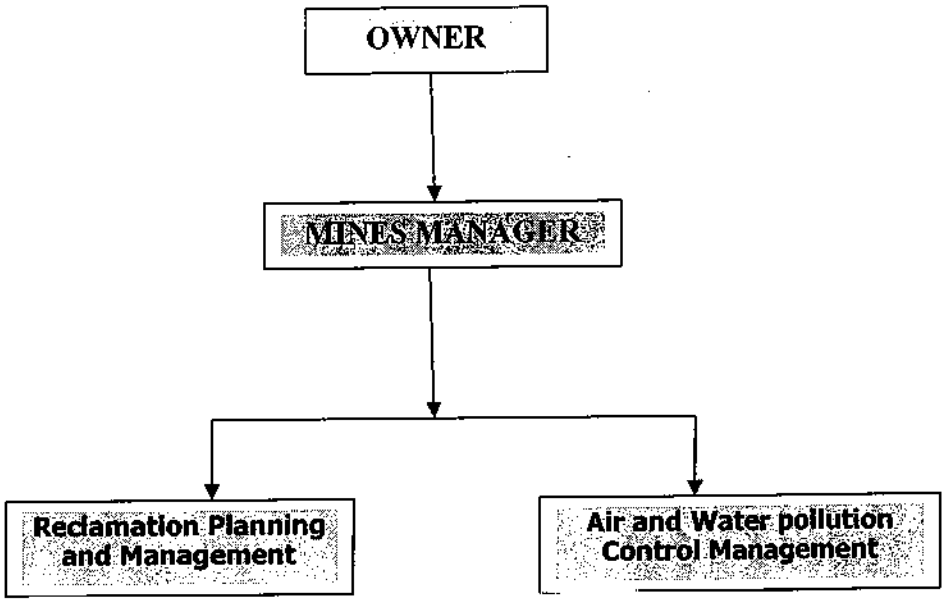
Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 604 X 800 = Rs 483200 (Gabion Plantation along approach road) 976 X 400 = 390400 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	8,73,600	87,360
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610** **(Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**8,73,600**	**5,90,580**

Solid Waste Management

28116Cum. O.B shall be generated during the scheme period which shall be used in backfilling the mine void.

Environment Monitoring Programme:

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 stations	6 Monthly



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by	Very	Minor	20

		hitting by loading material, Exposure to Dust	Unlikely		
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.

- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Gilamari Stone Deposit of M/s Prateek Stone Works (Prop. : Shri Pintu Kumar Pandit), Village : Gilamari, Thana : Mirzachouki, Distt. : Sahibganj, Jharkhand (3.38 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

14. Pakariya Stone Deposit of M/s Hill Touch Stone Works (Prop. : Shri Ram Vyas Tiwari), Village : Nimgachhi, Thana : Mirzachouki, Distt. : Sahibganj, Jharkhand (3.03 Ha).

(Proposal no.: SIA/JH/MIN/ 534166 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2016-17/107, dated 15.03.2018.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 07.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ · All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 678/M, dated 24.04.2025 by DMO, Sahibganj is within the permissible limit of EC.

The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 487, dated 21.03.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 233266.5 Tons
Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Pakariya Stone Deposit Project Type – Stone Mine

2	Lessee:	:	M/S Hill Touch Stone Works Prop: - Sri Ram Vyas Tiwari	
3	Lessee Address	:	M/S Hill Touch Stone Works Prop: - Sri Ram Vyas Tiwari Vill- Nimgachhi, Po+P.S.- Mirzachouki, District- Sahibganj, Jharkhand	
4	Lease Area	:	3.03 Ha.	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs.216.7 Lakhs	Recurring Cost: Rs. 8.09 Lakhs/Year
7	EMP Budget	:	Capital Cost: Rs. 7.24 Lakhs	Recurring Cost: Rs. 5.65 Lakhs/Year
8	New or Expansion	:	New (Re appraisal of DEIAA EC)	
9	Mineable Reserves	:	11,66,238 Tons as per scheme	
10	Mine Life	:	Up to the lease period i.e. 04/06/2019 to 03/06/2029.	
11	Man power	:	30 Person	
12	Water Requirement	:	5.126 KLD (Drinking: 0.45 KLD, Dust Suppression: 0.824 KLD, Plantation: 3.852 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	River Ganga – 11.56 Km in East direction	
17	Nearest Habitation	:	Nimgachhi Village – 1.20 Km	
18	Nearest Rail Station	:	Pakariya Stone Deposit is situated near about 8 km away from Mirzachouki Railway station in North direction.	
19	Nearest Air Port	:	Nearest Airport Deoghar is near about 119.62 Km away from applied area.	
20	Nearest Forest	:	DFO (Sahibganj) letter no.- 1640 Dated: 12/11/2016 certified that the distance of reserved / protected forest is more than 250 m from proposed project site.	
21	Road & Highways	:	Nearest highway is Sahibganj-Mirzachouki which is 9.0 km away from applied area in the north.	

CO-ORDINATES

S.no	Latitude	Longitude
1	25°14' 1.388" N	87°31' 34.843" E
2	25°14' 2.408" N	87°31' 36.359" E
3	25°14' 3.523" N	87°31' 37.331" E

	4	25°14' 4.631" N	87°31' 38.691" E
	5	25°14' 5.267" N	87°31' 39.458" E
	6	25°14' 4.031" N	87°31' 40.368" E
	7	25°14' 2.786" N	87°31' 40.963" E
	8	25°14' 2.115" N	87°31' 40.704" E
	9	25°14' 2.190" N	87°31' 41.295" E
	10	25°14' 1.922" N	87°31' 41.704" E
	11	25°14' 1.153" N	87°31' 41.125" E
	12	25°14' 0.657" N	87°31' 42.085" E
	13	25°14' 0.129" N	87°31' 42.754" E
	14	25°14' 0.282" N	87°31' 42.906" E
	15	25°13' 59.895" N	87°31' 43.716" E
	16	25°14' 0.251" N	87°31' 43.987" E
	17	25°14' 0.344" N	87°31' 44.667" E
	18	25°13' 59.253" N	87°31' 44.764" E
	19	25°13' 59.220" N	87°31' 43.216" E
	20	25°13' 59.192" N	87°31' 41.909" E
	21	25°13' 57.870" N	87°31' 40.589" E
	22	25°13' 56.830" N	87°31' 39.531" E
	23	25°13' 58.085" N	87°31' 38.161" E
	24	25°13' 59.176" N	87°31' 36.970" E
	25	25°14' 0.059" N	87°31' 36.005" E

LAND DETAILS

Khata no.	Plot no.
25, 29, 39 & 43	128, 129 (P), 132 (P), 133 (P) & 134

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 04.06.2019 to 03.06.2029.
2	CO	:	The CO, Mandro vide memo no. 353/Ra., dated 22.07.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1351/M, dated 10.12.2024 certified that no other mining lease area exists within 500 meters radius from proposed project site.

4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1763, dated 08.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 1640, dated 12.11.2016 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 06, Page no. 128).
7	Gram Sabha	:	Gram Sabha conducted on 23.06.2016.
8	Scheme / Mine Plan Approval	:	i. Mining plan approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 349/M, dated 31.07.2017. ii. Mining scheme approved by DMO, Sahibganj vide Letter No. 703/M, dated 10.08.2022.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2016-17/107, dated 15.03.2018.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 487, dated 21.03.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-6151512 /2019/592, dated 10.10.2019.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTO-20222188 /2024/1881, dated 10.12.2024.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 678/M, dated 24.04.2025.
14	Grid Certificate	:	DMO, Sahibganj vide memo no. 346, dated 20.02.2025 certified that the proposed project is outside of Redzone Grid 1, 3, 4 & 7.
15	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	2.39Ha	Life of Mine -Upto the lease period i.e. 04/06/2019 to 03/06/2029.
3	Waste Generation	:	10238.80 Cum. O.B (During Scheme plan period)	

4	Stripping Ratio	:	1:0.05
5	Working Days	:	300
6	Benches: size	:	6 m x 6 m
7	Highest Elevation of Mine	:	170 m to 137.5m AMSL
8	Ground Level Elevation	:	130 m AMSL
9	Ultimate Pit Depth	:	123.97 m AMSL
10	Water Table	:	(During pre-monsoon 104.55 m AMSL) (During post-monsoon 109.37 m AMSL)
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	105 kg Slurry explosives/day (Will be obtain from licence vendors)
13	Diesel/Fuel requirement	:	HSD – 245.58 liters / day (73.674 KL/year)

Production Details

Years	Production of stone in Tonnes/Year	Production of O.B in Cum/Year
1st	233212.5	2950
2nd	233253.0	2960
3rd	233246.3	2400
4th	233259.8	0
5th	233266.4	0
Total	**1166238**	**8310**

Land Use

SL	Pattern	Existing Land Use (Ha)	Conceptual Land Use (Ha)
1	Quarry	0.66	2.39 (Rain Water Harvesting pit-1.46 ha, Rehabilitated area-0.40 Ha., Embankment- 0.11 Ha)
2	Road	0.01	0.01
3	Dump	0	0
4	Retaining Wall	0	0

5	Garland drain & Sump	0	0
6	Greenbelt	0	0.63
7	Total area used	0.67	0.64
8	Balanced area unused	2.36	0
	Total	**3.03**	**3.03**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green belt/Safety zone		0.63 Ha	1008
2	Along Approach Road		0.206 km	276
TOTAL				**1284**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 276 X 800 = Rs 2,20,800 (Gabion Plantation along approach road) 1453 X 400 = Rs 4, 03, 200 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	6,24,000	62,400
3	Fencing	1,00,000	--
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270	--	2,03,220

Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	• Ground Water (2 point) - Rs.12,420 • Noise 24 hrs (3 point) - Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**		
Total		**7,24,000**	**5,65,620**

Solid Waste Management

8310Cum. O.B shall be generated during the scheme period which shall be used in backfilling the mine void.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.

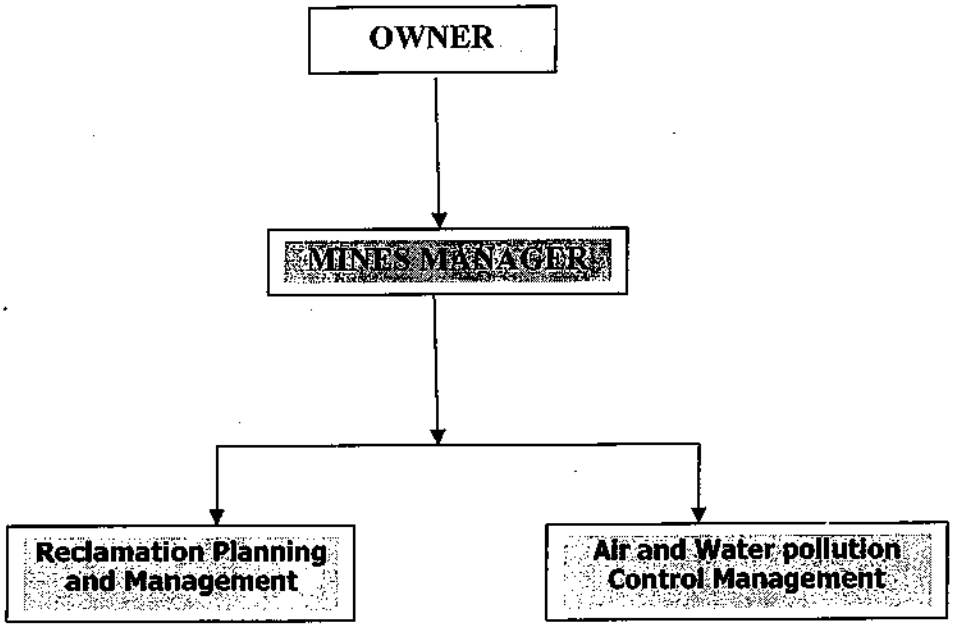
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Environment Monitoring Programme:

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 stations	6 Monthly



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.

- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.

- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.

- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Pakariya Stone Deposit of M/s Hill Touch Stone Works (Prop. : Shri Ram Vyas Tiwari), Village : Nimgachhi, Thana : Mirzachouki, Distt. : Sahibganj, Jharkhand (3.03 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and

thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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15. Karma Kalan Stone Mine of M/s Jai Maa Nagar Bhagwati Stone Works (Partners : (i) Shri Kailash Singh (ii) Shri Vijay Singh (iii) Shri Ajit Kumar), Village : Karma Kalan, Thana : Chhatarpur, Distt. : Palamau, Jharkhand (1.659 Ha).

(Proposal no.: SIA/JH/MIN/ 532972 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for Proposed Capacity: 25650 Cum. /annum or 71820 TPA.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Karma Kalan Stone Mine
2	Lessee:	:	M/s Jai Maa Nagar Bhagwati Stone Works Partners 1) Shri Kailash Singh 2) Shri Vijay Singh 3) Shri Ajit Kumar
3	Lessee Address	:	Partner 1) Shri Kailash Singh, S/o Shri Vinay Singh Partner 2) Shri Vijay Singh S/o Late Basudeb Singh Partner 3) Shri Ajit Kumar S/o Shri Lalan Sao R/o Vill – Karma kalan, P.O – Chhatarpur, Dist – Palamu, Jharkhand

4	Lease Area	:	1.659 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 102.69 Lakhs	Recurring Cost: Rs. 10.02 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 7.316 Lakhs	Recurring Cost: Rs. 5.763 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 117760cum	Tonnes: 329782tons
10	Mine Life	:	10 years.	
11	Man power	:	19Person	
12	Water Requirement	:	5.772 KLD (Drinking: 0.285 KLD, Dust Suppression: 0.564KLD, Plantation: 4.923 KLD)	
13	Water Source	:	From Nearby villages tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	North Koel River at 25.78 km SW Direction	
17	Nearest Habitation	:	Karma Kalan village 0.88 km East direction.	
18	Nearest Rail Station	:	Rajhura Railway Station is at areal distance of 26.82 km in SW direction.	
19	Nearest Air Port	:	Birsa Munda Airport (Ranchi) is at areal distance of 164 km SE direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer Medninagar. letter no.- 1913 Dated- 04/07/2024	
21	Road & Highways	:	The distance of Approach Road is 141m, after that this road connects to NH-139 Daltonganj – Aurangabad.	

CO-ORDINATES

Point Code	Latitude	Longitude
1	24° 21' 09.75027738" N	084° 10' 06.48174096" E
2	24° 21' 09.87945005" N	084° 10' 05.65310117" E
3	24° 21' 10.00862268" N	084° 10' 04.82446139" E
4	24° 21' 10.16449185" N	084° 10' 03.82456355" E
5	24° 21' 10.28478119" N	084° 10' 03.35342939" E
6	24° 21' 10.37363124" N	084° 10' 03.14186915" E
7	24° 21' 10.70852746" N	084° 10' 03.21238923" E
8	24° 21' 10.82334897" N	084° 10' 02.96932002" E
9	24° 21' 10.94773890" N	084° 10' 02.63172389" E
10	24° 21' 11.05709265" N	084° 10' 02.39915767" E
11	24° 21' 11.22932477" N	084° 10' 02.23711152" E
12	24° 21' 11.26486472" N	084° 10' 01.95503120" E
13	24° 21' 11.52731351" N	084° 10' 01.69395686" E
14	24° 21' 11.31134004" N	084° 10' 01.54991585" E
15	24° 21' 11.49385130" N	084° 10' 01.02500638" E
16	24° 21' 11.62962428" N	084° 10' 00.58894495" E

17	24° 21' 11.58957780" N	084° 09' 59.98818795" E
18	24° 21' 11.68715773" N	084° 09' 59.85499572" E
19	24° 21' 12.42426803" N	084° 10' 00.06745209" E
20	24° 21' 13.51980886" N	084° 10' 00.38321907" E
21	24° 21' 14.61534706" N	084° 10' 00.69898605" E
22	24° 21' 14.84387746" N	084° 10' 00.68726396" E
23	24° 21' 15.26307623" N	084° 10' 00.77356659" E
24	24° 21' 15.61548237" N	084° 10' 00.79466635" E
25	24° 21' 16.19156372" N	084° 10' 00.94749431" E
26	24° 21' 15.99507089" N	084° 10' 01.65550841" E
27	24° 21' 15.83915803" N	084° 10' 02.19238004" E
28	24° 21' 16.00574985" N	084° 10' 02.23692397" E
29	24° 21' 15.83782316" N	084° 10' 02.92969936" E
30	24° 21' 15.63022724" N	084° 10' 03.74334484" E
31	24° 21' 14.97015647" N	084° 10' 03.55609843" E
32	24° 21' 14.76325109" N	084° 10' 03.50847745" E
33	24° 21' 14.98270428" N	084° 10' 02.70111865" E
34	24° 21' 14.89940819" N	084° 10' 02.64485263" E
35	24° 21' 14.21168094" N	084° 10' 02.33773393" E
36	24° 21' 14.50001392" N	084° 10' 01.57110938" E
37	24° 21' 14.60253227" N	084° 10' 01.42575549" E
38	24° 21' 14.40950942" N	084° 10' 01.34355435" E
39	24° 21' 14.06911623" N	084° 10' 02.33626866" E
40	24° 21' 13.81882696" N	084° 10' 03.16047797" E
41	24° 21' 13.27152728" N	084° 10' 02.98464665" E
42	24° 21' 13.28153887" N	084° 10' 02.60367879" E
43	24° 21' 13.51968105" N	084° 10' 02.00717105" E
44	24° 21' 13.25487889" N	084° 10' 02.01120720" E
45	24° 21' 13.13940188" N	084° 10' 02.25031528" E
46	24° 21' 13.05366893" N	084° 10' 02.64210685" E
47	24° 21' 12.83846166" N	084° 10' 02.98876556" E
48	24° 21' 12.09868587" N	084° 10' 02.80277259" E
49	24° 21' 11.99206620" N	084° 10' 02.99482728" E
50	24° 21' 11.79659675" N	084° 10' 03.27690760" E
51	24° 21' 11.41604297" N	084° 10' 03.56342474" E
52	24° 21' 11.43606623" N	084° 10' 03.90409791" E
53	24° 21' 11.70638004" N	084° 10' 04.11289760" E
54	24° 21' 11.68635680" N	084° 10' 04.38397088" E
55	24° 21' 11.76644976" N	084° 10' 04.57811796" E
56	24° 21' 11.73641490" N	084° 10' 05.00670680" E
57	24° 21' 11.79982182" N	084° 10' 05.37668520" E
58	24° 21' 11.99337973" N	084° 10' 05.53786390" E
59	24° 21' 11.77899766" N	084° 10' 06.04191368" E
60	24° 21' 11.22795785" N	084° 10' 06.01143625" E
61	24° 21' 11.05068521" N	084° 10' 05.97392557" E

62	24° 21' 10.97593167" N	084° 10' 06.18961199" E
63	24° 21' 11.16601922" N	084° 10' 06.54127462" E
64	24° 21' 11.14893270" N	084° 10' 06.90231493" E
65	24° 21' 11.24718018" N	084° 10' 07.01953581" E
66	24° 21' 11.61454011" N	084° 10' 07.12034576" E
67	24° 21' 11.53124341" N	084° 10' 07.52827442" E
68	24° 21' 11.38173646" N	084° 10' 07.85883730" E
69	24° 21' 11.27483730" N	084° 10' 07.88296831" E
70	24° 21' 10.84204270" N	084° 10' 07.76849480" E
71	24° 21' 10.47703488" N	084° 10' 07.49948204" E
72	24° 21' 10.05988273" N	084° 10' 07.55099512" E
73	24° 21' 09.51758437" N	084° 10' 07.23046928" E

LAND DETAILS

Khata no.	Plot no.
40, 50 & 60	513 (P), 514, 536 (P), 537 (P), 543, 544, 545, 547 (P) & 548 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Palamau, Medininagar vide letter no. 2090/M, dated 07.10.2024.
2	CO	:	The CO, Chattarpur, Palamau vide letter no. 550, dated 27.07.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO Cluster	:	DMO, Palamau, Medininagar vide memo no. 2594/M, dated 12.11.2024 certified that 01 LoI (3.03 Acre) exists within 500 meters radius from proposed project site and total area is 7.13 Acre.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no. 939, dated 14.11.2024 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Territorial	:	Divisional Forest Officer, Medininagar Forest Division vide letter no. 1913, dated 04.07.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.

6	DSR	:	This project is mentioned in approved DSR of Palamau District (Sl. no. 24, Page no. 107).
7	Gram Sabha	:	BDO, Chattarpur, Palamau vide letter no. 756, dated 28.08.2024 informed that Gram Sabha conducted on 27.07.2024.
8	Mine Plan Approval	:	Approved by Assistant Director, Geology District Geological Officer, Palamau vide Memo No. 58, dated 19.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast-Mechanized Method	
2	Quarry Area	:	0.751 Ha	Life of Mine – 10years
3	Waste Generation	:	15130 cum O.B (During Mine Plan Period)	
4	Stripping Ratio	:	1:0.11	
5	Working Days	:	300	
6	Benches: size	:	4 m x 4 m,	
7	Elevation of Mine	:	(283m to 278m)AMSL	
8	Ground Level Elevation	:	278m AMSL	
9	Ultimate Pit Depth	:	258 m AMSL	
10	Water Table	:	247m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	24.64 kg Nitro mix explosives. (will be obtain from licenced Vendors)	
13	Diesel/Fuel requirement	:	HSD – 274Liters/day (82.2 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable	T.F.	Tonnes	Cum
1st	20736	2.8	58061	5346
2nd	24730	2.8	69244	1978
3rd	24081	2.8	67427	3450
4th	22563	2.8	63176	0
5th	25650	2.8	71820	4356
Total	**117760**		**329728**	**15130**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Activities	0	0.776	0.148	0.751	Water body
2	Dumping	0	0	0	0.173	Plantation (Reclaimed)
3	Safety Zone	0	0.735	0	0.735	Plantation
4	Unutilized	1.659	0.148	0	0	-
Total		**1.659**	**1.659**	**0.148**	**1.659**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone/Green Belt	0.908 Ha	1453
2	Along Approach Road	141 m	188
TOTAL			**1641**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl.No.	**Particulars**	**Capital Cost in Rs.**	**Recurring Cost in Rs. per year**
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 188 X 800 = Rs 1,50,400 (Gabion Plantation along approach road) 1453 X 400 = Rs 5,81,200 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	7,31,600	73,160

Sl.No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
3	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610** **(Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022	--	2,03,220
Total		**Rs 7,31,600**	**Rs 5,76,380**

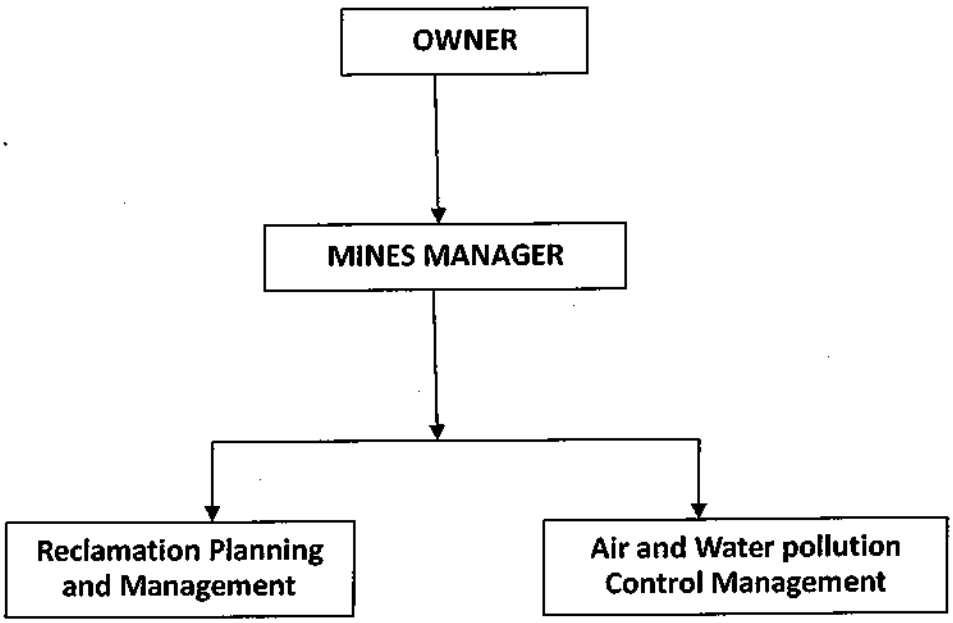
Solid Waste Management

15130cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Environment Monitoring Programme

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)

- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal Karma Kalan Stone Mine of M/s Jai Maa Nagar Bhagwati Stone Works (Partners : (i) Shri Kailash Singh (ii) Shri Vijay Singh (iii) Shri Ajit Kumar), Village : Karma Kalan, Thana : Chhatarpur, Distt. : Palamau, Jharkhand (1.659 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal

(https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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16. Karma Kalan Stone Mine of Partners : (i) Shri Anil Kumar (ii) Shri Pankaj Kumar (iii) Shri Sudhir Singh, Village : Karma Kalan, Thana : Chhatarpur, Distt. : Palamau, Jharkhand (1.22 Ha).

(Proposal no.: SIA/JH/MIN/ 518806 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for Proposed Capacity: 15776 Cum. / annum or 44173 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Karma Kalan Stone Mine	
2	Lessee:	:	Bhavya Rock Mining Company Partners 1. Shri Anil Kumar, 2. Shri Pankaj Kumar, 3. Shri Sudhir Singh	
3	Lessee Address	:	Bhavya Rock Mining Company. Partners 1. Shri Anil Kumar, S/o Late Laxman Prasad Sahu 2. Shri Pankaj Kumar, S/o Shri Balmiki Sharma 3. Shri Sudhir Singh, S/o Late Krishndev Singh R/o Vill + P.O – Aanta, Thana – Hatidah, Dist – Patna, Bihar	
4	Lease Area	:	1.22 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 103.79 Lakhs	Recurring Cost: Rs. 6.75 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 4.288 Lakhs	Recurring Cost: Rs. 5.461 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 69432cum	Tonnes: 194410tons
10	Mine Life	:	10 years.	
11	Man power	:	25Person	
12	Water Requirement	:	3.752 KLD (Drinking: 0.375 KLD, Dust Suppression: 0.32KLD, Plantation: 3.057 KLD)	
13	Water Source	:	From Nearby villages tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	North Koel River at 12.52 km East Direction.	
17	Nearest Habitation	:	Karma Kalan Village – 0.78 Km in SE Direction.	

18	Nearest Rail Station	:	Garhwa Road Junction at aerial distance of 32.81 km at SW direction.
19	Nearest Air Port	:	Birsa Munda Airport is at aerial distance of 164 km SE direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer Medninagar. letter no.- 2074 Dated- 10/07/2024
21	Road & Highways	:	The distance of Approach Road is 80m, after that, this road connects to NH-139 (Daltonganj-Aurangabad road).

CO-ORDINATES

Point ID	Latitude	Longitude
1	24° 21' 15.21075600" N	084° 10' 12.83147760" E
2	24° 21' 14.89872240" N	084° 10' 12.88255440" E
3	24° 21' 14.58121680" N	084° 10' 13.00273320" E
4	24° 21' 14.28834240" N	084° 10' 12.96667920" E
5	24° 21' 14.00138280" N	084° 10' 12.80071200" E
6	24° 21' 13.99437720" N	084° 10' 12.55843200" E
7	24° 21' 13.84022160" N	084° 10' 12.32960880" E
8	24° 21' 13.61073960" N	084° 10' 12.57765960" E
9	24° 21' 13.58096040" N	084° 10' 12.66995640" E
10	24° 21' 13.61249280" N	084° 10' 12.96415560" E
11	24° 21' 13.60373400" N	084° 10' 13.17759240" E
12	24° 21' 13.38826680" N	084° 10' 13.43910360" E
13	24° 21' 13.39330320" N	084° 10' 13.70878680" E
14	24° 21' 13.55205600" N	084° 10' 13.79291160" E
15	24° 21' 13.63690800" N	084° 10' 14.33409240" E
16	24° 21' 13.50432720" N	084° 10' 14.55942720" E
17	24° 21' 13.26483000" N	084° 10' 14.65801320" E
18	24° 21' 13.02105240" N	084° 10' 14.62984680" E
19	24° 21' 13.00822200" N	084° 10' 14.35287000" E
20	24° 21' 12.55916160" N	084° 10' 14.52187200" E
21	24° 21' 12.52494720" N	084° 10' 13.93036680" E
22	24° 21' 12.46934880" N	084° 10' 13.47030480" E
23	24° 21' 12.21274440" N	084° 10' 13.50316560" E
24	24° 21' 12.38381280" N	084° 10' 14.00078280" E
25	24° 21' 12.30255360" N	084° 10' 14.29184280" E
26	24° 21' 12.30683040" N	084° 10' 14.50778880" E
27	24° 21' 12.30255360" N	084° 10' 14.75659920" E
28	24° 21' 11.75940360" N	084° 10' 14.88804240" E
29	24° 21' 11.27903400" N	084° 10' 14.92597560" E
30	24° 21' 10.92714120" N	084° 10' 14.07833760" E
31	24° 21' 10.79849520" N	084° 10' 13.74784320" E
32	24° 21' 10.75743720" N	084° 10' 13.58560200" E
33	24° 21' 10.63448640" N	084° 10' 13.59870240" E

34	24° 21' 10.58893920" N	084° 10' 13.34872920" E
35	24° 21' 10.65200400" N	084° 10' 12.99492120" E
36	24° 21' 10.67477760" N	084° 10' 12.68533920" E
37	24° 21' 10.58718960" N	084° 10' 12.67380480" E
38	24° 21' 10.43138880" N	084° 10' 13.06294320" E
39	24° 21' 10.30799880" N	084° 10' 13.24237080" E
40	24° 21' 10.31566320" N	084° 10' 13.32757920" E
41	24° 21' 10.34369280" N	084° 10' 13.45256400" E
42	24° 21' 10.33843680" N	084° 10' 13.55255400" E
43	24° 21' 10.28391120" N	084° 10' 13.64400120" E
44	24° 21' 10.06151760" N	084° 10' 13.63930680" E
45	24° 21' 09.67660560" N	084° 10' 13.60644600" E
46	24° 21' 09.78780240" N	084° 10' 13.28252520" E
47	24° 21' 09.81346320" N	084° 10' 12.97738200" E
48	24° 21' 10.06578720" N	084° 10' 13.04310000" E
49	24° 21' 09.98453520" N	084° 10' 12.87410520" E
50	24° 21' 10.07930880" N	084° 10' 12.49253400" E
51	24° 21' 10.02302640" N	084° 10' 12.33423840" E
52	24° 21' 10.00591920" N	084° 10' 12.21218040" E
53	24° 21' 10.14602760" N	084° 10' 12.00224280" E
54	24° 21' 10.28818800" N	084° 10' 11.8169432" E
55	24° 21' 10.33095600" N	084° 10' 11.57842200" E
56	24° 21' 10.45926000" N	084° 10' 11.43758640" E
57	24° 21' 10.67960160" N	084° 10' 11.18352000" E
58	24° 21' 10.69876080" N	084° 10' 11.06202720" E
59	24° 21' 10.96392240" N	084° 10' 10.96813920" E
60	24° 21' 11.33172720" N	084° 10' 10.96344480" E
61	24° 21' 11.46430440" N	084° 10' 11.08549920" E
62	24° 21' 11.63537640" N	084° 10' 11.09488800" E
63	24° 21' 12.00283920" N	084° 10' 10.95067560" E
64	24° 21' 12.49136280" N	084° 10' 11.33933520" E
65	24° 21' 12.48786000" N	084° 10' 11.53162200" E
66	24° 21' 12.55060800" N	084° 10' 11.64414720" E
67	24° 21' 12.74734080" N	084° 10' 11.55964440" E
68	24° 21' 13.11941880" N	084° 10' 11.28267120" E
69	24° 21' 13.35036600" N	084° 10' 11.05263840" E
70	24° 21' 13.68395280" N	084° 10' 10.70055120" E
71	24° 21' 13.98178440" N	084° 10' 10.43090040" E
72	24° 21' 14.31297720" N	084° 10' 10.56309600" E
73	24° 21' 14.58942840" N	084° 10' 10.74036000" E
74	24° 21' 14.92062120" N	084° 10' 11.14296240" E
75	24° 21' 15.18338160" N	084° 10' 11.44040520" E
76	24° 21' 15.05747520" N	084° 10' 11.87004360" E
77	24° 21' 15.17243400" N	084° 10' 12.06533640" E
78	24° 21' 15.06842280" N	084° 10' 12.36578520" E
79	24° 21' 15.31202760" N	084° 10' 12.51901200" E

LAND DETAILS

Khata no.	Plot no.
51, 54 & 45	367, 370 (P), 376, 374, 366 & 362 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Palamau, Medininagar vide letter no. 2121/M, dated 14.10.2024.
2	CO	:	The CO, Chattarpur, Palamau vide memo no. 419, dated 17.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Palamau, Medininagar vide memo no. 2601/M, dated 12.11.2024 certified that 01 Lol (4.10 Acre) exists within 500 meters radius from proposed project site and total area is 7.13 Acre.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no. 914, dated 29.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Territorial	:	Divisional Forest Officer, Medininagar Forest Division vide letter no. 2074, dated 10.07.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Palamau District (Sl. no. 29, Page no. 108).
7	Gram Sabha	:	BDO, Chattarpur, Palamau vide letter no. 751, dated 24.08.2024 informed that Gram Sabha conducted on 27.07.2024.
8	Mine Plan Approval	:	Approved by Assistant Director, Geology District Geological Officer, Palamau vide Memo No. 08, dated 16.01.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast-Mechanized Method

2	Quarry Area	:	0.576 Ha	Life of Mine – 10years
3	Waste Generation	:	5504 cum O.B (During Mine Plan Period)	
4	Stripping Ratio	:	1:0.03	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m,	
7	Elevation of Mine	:	278mAMSL	
8	Ground Level Elevation	:	275m AMSL	
9	Ultimate.Pit Depth	:	257 m AMSL	
10	Water Table	:	245.48 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	13.44 kg Nitro mix explosives. (Will be obtain from licence venders)	
13	Diesel/Fuel requirement	:	HSD – 246liters/day (73.8 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable 95%	T.F.	Tonnes	Cum
1st	15536	2.8	43501	4352
2nd	14688	2.8	41126	0
3rd	15776	2.8	44173	0
4th	12520	2.8	35056	0
5th	10912	2.8	30554	1152
Total	**69432**		**194410**	**5504**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Activities	0.000	0.576	Water body
2	Dumping	0.000	0.100	Plantation
3	Garland drain	0.000	0.034	-
4	Safety Zone	0.000	0.504	Plantation
5	Unutilized	1.220	0.008	Green Belt
Total		**1.220**	**1.220**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone/Green Belt		0.604 Ha	966
2	Along Approach Road		80m	106
TOTAL				**1019**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 53 X 800 = Rs 42,400 (Gabion Plantation along approach road) 966 X 400 = 3,86,400 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	4,28,800	42,880
3	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) - Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2**	--	2,03,220

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	= Rs. 2,03,220 Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022		
Total		4,28,800	5,46,100

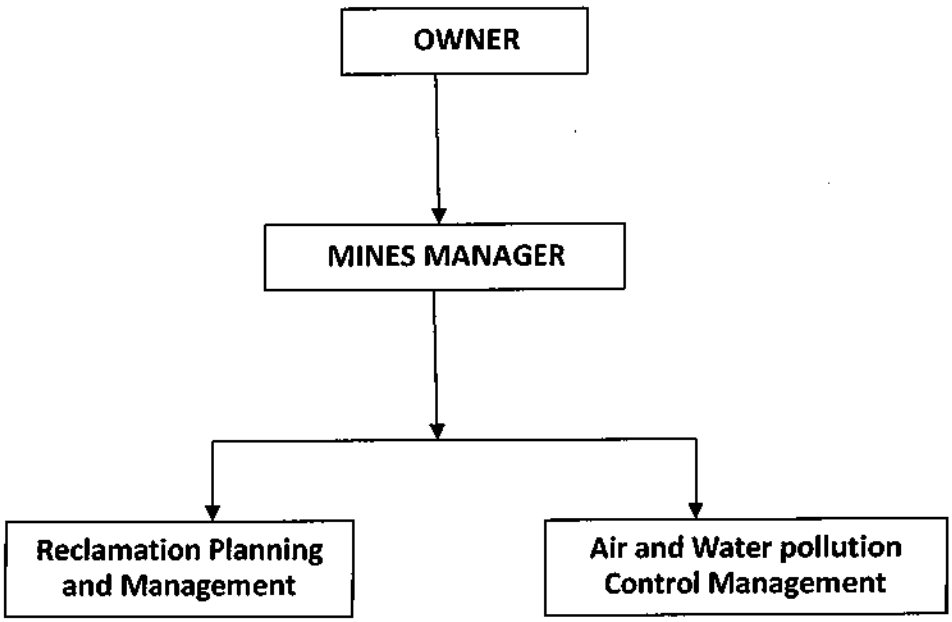
Solid Waste Management

5504cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Environment Monitoring Programme

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.

- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5

5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk
during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.
The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.
The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.

- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming

vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal Karma Kalan Stone Mine of Partners : (i) Shri Anil Kumar (ii) Shri Pankaj Kumar (iii) Shri Sudhir Singh, Village : Karma Kalan, Thana : Chhatarpur, Distt. : Palamau, Jharkhand (1.22 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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17. Shiripalpur Stone Mine of M/s Radheshyam Stone Works (Partners : (i) Shri Vijay Singh (ii) Shri Kailash Singh (iii) Shri Nandlal Kumar Singh), Village : Shiripalpur, Thana : Pipra, Distt. : Palamau, Jharkhand (2.469 Ha).
(Proposal no.: SIA/JH/MIN/ 530550 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 63907Cum. / annum or 178938 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Shiripalpur Stone Mine	
2	Lessee:	:	M/S. Radheshyam Stone Works Partners 1. Shri Vijay Singh 2. Shri Kailash Singh 3. Shri Nandlal Kumar Singh	
3	Lessee Address	:	M/S. Radheshyam Stone Works Partners 1. Shri Vijay Singh S/o Shri Basudev Singh Vill- Karma Kalan, PO- Sildag, Chhtarpur, Palamu. 2. Shri Kailash Singh S/o Shri Vinay Singh Vill- Shiripalpur, PO- Pipra, Palamu. 3. Shri Nandlal Kumar Singh S/o Shri Awadh Bihari Singh Vill- Barwadih, PO- Sakaldipa, Harihganj, Palamu.	
4	Lease Area	:	2.469 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 143.22 Lakhs	Recurring Cost: Rs. 24.69Lakhs
7	EMP Budget	:	Capital Cost: Rs. 7.72 Lakhs	Recurring Cost: Rs. 10.42 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 467549cum	Tonnes: 1309137tons
10	Mine Life	:	10 years.	
11	Man power	:	29Person	
12	Water Requirement	:	7.633 KLD (Drinking: 0.435 KLD, Dust Suppression: 1.456KLD, Plantation: 5.742KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	

16	Nearest Water Body	:	North Koel River – 24 km – NW direction
17	Nearest Habitation	:	Shiripalpur– 1.14 km in the NW direction.
18	Nearest Rail Station	:	Japla Railway Station is at areal distance of 19 km NW direction.
19	Nearest Air Port	:	Birsa Munda Airport (Ranchi) is at areal distance of 164 km SE direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Medninagar. letter no.- 1642 Dated- 01/06/2024
21	Road & Highways	:	The distance of Approach Road is 364m, after that this road connects to NH-139 Daltonganj – Aurangabad.

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 26' 57.46987326" N	084° 09' 41.58036481" E
2	24° 26' 57.14800302" N	084° 09' 41.89417012" E
3	24° 26' 56.91305060" N	084° 09' 42.01476038" E
4	24° 26' 56.83311337" N	084° 09' 42.26496260" E
5	24° 26' 56.57482293" N	084° 09' 42.59147349" E
6	24° 26' 56.47832329" N	084° 09' 42.81709154" E
7	24° 26' 56.39181579" N	084° 09' 43.05045324" E
8	24° 26' 56.32611388" N	084° 09' 43.24772807" E
9	24° 26' 56.29545299" N	084° 09' 43.55566926" E
10	24° 26' 56.33409173" N	084° 09' 43.74743422" E
11	24° 26' 56.12024783" N	084° 09' 44.11260979" E
12	24° 26' 56.04591511" N	084° 09' 44.12628168" E
13	24° 26' 55.86455030" N	084° 09' 44.27288455" E
14	24° 26' 55.76723663" N	084° 09' 44.32251502" E
15	24° 26' 55.67894956" N	084° 09' 44.42055099" E
16	24° 26' 55.33458331" N	084° 09' 44.73012813" E
17	24° 26' 54.68685726" N	084° 09' 44.59257072" E
18	24° 26' 54.42670774" N	084° 09' 45.13196420" E
19	24° 26' 54.19876851" N	084° 09' 44.90281577" E
20	24° 26' 53.92281909" N	084° 09' 45.00626477" E
21	24° 26' 53.75278194" N	084° 09' 45.23130176" E
22	24° 26' 53.95207850" N	084° 09' 45.39128750" E
23	24° 26' 53.78453771" N	084° 09' 45.88327168" E
24	24° 26' 53.51844338" N	084° 09' 46.73853024" E
25	24° 26' 53.25344395" N	084° 09' 47.74294783" E

26	24° 26' 53.11108881" N	084° 09' 48.36965628" E
27	24° 26' 52.94409523" N	084° 09' 48.48002192" E
28	24° 26' 52.65322512" N	084° 09' 48.72436003" E
29	24° 26' 52.49525609" N	084° 09' 48.83513576" E
30	24° 26' 52.20438569" N	084° 09' 48.74303909" E
31	24° 26' 51.95629564" N	084° 09' 48.36524371" E
32	24° 26' 51.70135599" N	084° 09' 48.37276180" E
33	24° 26' 51.53171089" N	084° 09' 48.83787732" E
34	24° 26' 51.42517542" N	084° 09' 48.92518526" E
35	24° 26' 51.43857547" N	084° 09' 49.21802104" E
36	24° 26' 51.59664643" N	084° 09' 49.46308811" E
37	24° 26' 51.47728669" N	084° 09' 49.74697141" E
38	24° 26' 51.20681084" N	084° 09' 49.99717363" E
39	24° 26' 50.86191556" N	084° 09' 50.10139248" E
40	24° 26' 50.37291122" N	084° 09' 49.78494567" E
41	24° 26' 50.02606617" N	084° 09' 50.05314435" E
42	24° 26' 49.90668482" N	084° 09' 49.97513659" E
43	24° 26' 49.69993982" N	084° 09' 49.91816747" E
44	24° 26' 49.52403130" N	084° 09' 49.79268143" E
45	24° 26' 49.68751044" N	084° 09' 49.45505509" E
46	24° 26' 49.70804258" N	084° 09' 49.23703031" E
47	24° 26' 49.91390392" N	084° 09' 48.95178243" E
48	24° 26' 50.08611769" N	084° 09' 48.93153387" E
49	24° 26' 50.37205224" N	084° 09' 48.61602174" E
50	24° 26' 51.01310446" N	084° 09' 48.39150489" E
51	24° 26' 51.33306273" N	084° 09' 48.29940822" E
52	24° 26' 51.49272406" N	084° 09' 48.27844524" E
53	24° 26' 51.46876999" N	084° 09' 48.10740856" E
54	24° 26' 51.51914746" N	084° 09' 48.00333707" E
55	24° 26' 51.53625752" N	084° 09' 47.80974610" E
56	24° 26' 51.70145301" N	084° 09' 47.30651936" E
57	24° 26' 51.89308146" N	084° 09' 46.64305684" E
58	24° 26' 51.59924715" N	084° 09' 46.64560658" E
59	24° 26' 51.15438559" N	084° 09' 46.45013609" E
60	24° 26' 50.98868015" N	084° 09' 46.39098432" E
61	24° 26' 51.16097658" N	084° 09' 45.50188910" E
62	24° 26' 51.53022060" N	084° 09' 45.58251003" E
63	24° 26' 51.66217832" N	084° 09' 44.80871374" E
64	24° 26' 50.67202184" N	084° 09' 44.58612551" E
65	24° 26' 50.52473463" N	084° 09' 45.35061460" E
66	24° 26' 50.87657766" N	084° 09' 45.42837682" E
67	24° 26' 50.70677710" N	084° 09' 46.34431671" E
68	24° 26' 50.49940972" N	084° 09' 46.37644345" E

69	24° 26' 50.36742601" N	084° 09' 46.37394572" E
70	24° 26' 50.40667498" N	084° 09' 45.62502510" E
71	24° 26' 49.88310571" N	084° 09' 45.58179605" E
72	24° 26' 49.85401851" N	084° 09' 46.36931657" E
73	24° 26' 49.52037110" N	084° 09' 46.45389514" E
74	24° 26' 49.12386237" N	084° 09' 46.12084240" E
75	24° 26' 49.07424295" N	084° 09' 45.53255142" E
76	24° 26' 49.01391096" N	084° 09' 45.26603603" E
77	24° 26' 48.87545561" N	084° 09' 45.08936078" E
78	24° 26' 48.76410271" N	084° 09' 45.07432459" E
79	24° 26' 48.53824856" N	084° 09' 45.08936078" E
80	24° 26' 48.20199943" N	084° 09' 44.89810042" E
81	24° 26' 48.37186379" N	084° 09' 44.24820015" E
82	24° 26' 48.50423355" N	084° 09' 43.88887126" E
83	24° 26' 48.66644542" N	084° 09' 43.58726570" E
84	24° 26' 49.53464556" N	084° 09' 43.95025752" E
85	24° 26' 49.44902247" N	084° 09' 44.22634283" E
86	24° 26' 50.53903267" N	084° 09' 44.67655786" E
87	24° 26' 50.83488661" N	084° 09' 43.78380896" E
88	24° 26' 49.74109172" N	084° 09' 43.30945163" E
89	24° 26' 49.66205619" N	084° 09' 43.56188914" E
90	24° 26' 48.86037452" N	084° 09' 43.24468962" E
91	24° 26' 48.94736892" N	084° 09' 43.13733605" E
92	24° 26' 49.34812270" N	084° 09' 43.20581919" E
93	24° 26' 50.17900369" N	084° 09' 43.15533067" E
94	24° 26' 50.55061364" N	084° 09' 43.15239391" E
95	24° 26' 50.59071542" N	084° 09' 43.26986416" E
96	24° 26' 50.82597909" N	084° 09' 43.35209333" E
97	24° 26' 50.98103917" N	084° 09' 43.36090360" E
98	24° 26' 51.30554001" N	084° 09' 43.05646771" E
99	24° 26' 51.77505290" N	084° 09' 43.09953230" E
100	24° 26' 51.89268445" N	084° 09' 43.00555611" E
101	24° 26' 52.13152919" N	084° 09' 43.02692135" E
102	24° 26' 53.09544319" N	084° 09' 42.62059177" E
103	24° 26' 53.36854487" N	084° 09' 42.60079964" E
104	24° 26' 53.37170818" N	084° 09' 42.60057039" E
105	24° 26' 53.86770370" N	084° 09' 42.39320160" E
106	24° 26' 54.30681643" N	084° 09' 42.28481558" E
107	24° 26' 54.56415000" N	084° 09' 41.71223741" E
108	24° 26' 54.62443111" N	084° 09' 41.61058755" E
109	24° 26' 54.69405561" N	084° 09' 41.71572983" E
110	24° 26' 55.17655552" N	084° 09' 41.99014032" E
111	24° 26' 55.54858335" N	084° 09' 42.22668399" E

112	24° 26' 55.67658429" N	084° 09' 42.26120957" E
113	24° 26' 55.79362145" N	084° 09' 41.96635587" E
114	24° 26' 55.90785530" N	084° 09' 41.86319557" E
115	24° 26' 56.05258140" N	084° 09' 41.52923035" E
116	24° 26' 56.25806859" N	084° 09' 41.31460313" E
117	24° 26' 56.31172516" N	084° 09' 41.13537173" E
118	24° 26' 56.53986264" N	084° 09' 41.12592607" E
119	24° 26' 56.68221669" N	084° 09' 40.77107196" E
120	24° 26' 57.27024488" N	084° 09' 40.95827637" E
121	24° 26' 57.26784034" N	084° 09' 41.30986373" E

LAND DETAILS

Khata no.	Plot no.
13 & 09	169, 172, 209 (P) & 208

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Palamau, Medininagar vide letter no. 1743/M, dated 20.08.2024.
2	CO	:	The CO, Pipra, Palamau vide letter no. 42, dated 01.03.2024 and letter no. 96, dated 15.06.2024 have mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO Cluster	:	DMO, Palamau, Medininagar vide memo no. 897/M, dated 12.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no. 905, dated 26.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Territorial	:	Divisional Forest Officer, Medininagar Forest Division vide letter no. 1642, dated 01.06.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Palamau District (Sl. no. 22, Page no. 106).

7	Gram Sabha	:	BDO, Pipra, Palamau vide letter no. 256, dated 01.03.2024 informed that Gram Sabha conducted on 29.02.2024.
8	Mine Plan Approval	:	Approved by Assistant Director, Geology District Geological Officer, Palamau vide Memo No. 57, dated 19.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	1.264 Ha	Life of Mine – 10years
3	Waste Generation	:	21390 cum	
4	Stripping Ratio	:	01:0.03	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	208m–204m AMSL	
8	Ground Level Elevation	:	204m AMSL	
9	Ultimate Working Depth	:	169 m AMSL	
10	Water Table	:	161 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	59.136kg Nitro mix explosives/day	
13	Diesel/Fuel requirement	:	HSD – 370.32 liters / day (111.096 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum	T.F.	Tonnes	Cum
1st	63023	2.8	176464	17360
2nd	63907	2.8	178938	4030
3rd	59342	2.8	166157	0
4th	58017	2.8	162446	0
5th	51096	2.8	143068	0
Total	**295384**	2.8	**827074**	**21390**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Quarry	0.000	0.976	0.472	1.269	Water body
2	Dumping	0.000	0.037	0.000	0.00	-
3	Settling Tank	0.000	0.008	0.000	0.009	-
4	Safety Zone	0.000	0.976	0.000	0.976	Plantation
5	Unutilized	**2.469**	0.472	0.203	0.215	Plantation (Backfilling)
Total		**2.469**	**2.469**	**0.472**	**2.469**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety Zone		1.196 Ha	1914
3	Along Approach Road		364m	484
TOTAL				**2176**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **Budget for Environmental Management**

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
2	Plantation 484 X 800 = Rs. 3,87,200 (Gabion Plantation along approach road) 1.914 X 400 = Rs. 7,65,600 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	6,72,000	67200
3	Fencing	1,00,000	
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**772000**	**1042420**

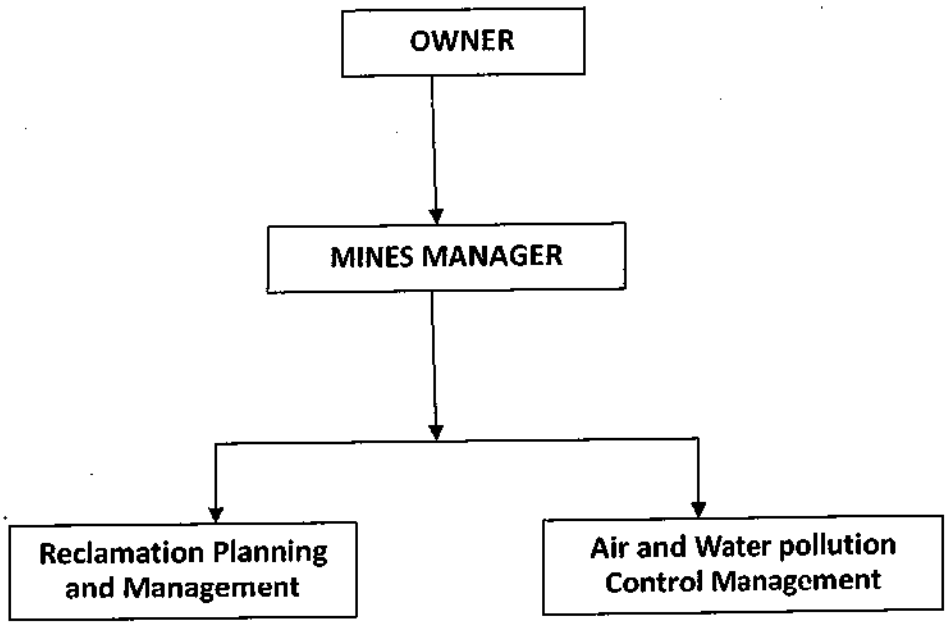
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

21390cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal Shiripalpur Stone Mine of M/s Radheshyam Stone Works (Partners : (i) Shri Vijay Singh (ii) Shri Kailash Singh (iii) Shri Nandlal Kumar Singh), Village : Shiripalpur, Thana : Pipra, Distt. : Palamau, Jharkhand (2.469 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

18. Bohita Stone Mine of M/s Maa Vindhyavasini Stone Mines (Partners : (i) Shri Nishant Kumar Agarwal (ii) Shri Arvind Kumar Singh (iii) Shri Sanjay Bharti), Village : Bohita, Thana : Lesliganj, Thana no. : 238, Distt. : Palamau, Jharkhand (1.558 Ha).

(Proposal no.: SIA/JH/MIN/ 532961 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 31,518Cum. / annum or 88,250 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bohita Stone Mine	
2	Lessee:	:	M/s Maa Vindhyavasini Stone Mines. Partners 1. Shri Nishant Kumar Agarwal 2. Shri Arvind Kumar Singh 3. Shri Sanjay Bharti	
3	Lessee Address	:	M/s Maa Vindhyavasini Stone Mines. Partners 1. Shri Nishant Kumar Agarwal S/o Anup Kumar Agarwal R/o Devi Mandap Road, Redma, Ward No. 17, Daltonganj, Palamu, Jharkhand 822101. 2. Shri Arvind Kumar Singh S/o Late Ramta Prasad Singh Vill- Abadganj, Daltonganj, Palamu, Jharkhand. 3. Shri Sanjay Bharti S/o Shri Gopal Bharti R/o Mission School Compound, Hazaribagh.	
4	Lease Area	:	1.558 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs.107.58 Lakhs	Recurring Cost: Rs. 11.46 Lakh/year
7	EMP Budget	:	Capital Cost: Rs. 4.65 Lakhs	Recurring Cost: Rs. 5.39 Lakhs/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 224567 cum	Tonnes: 628788 tons

10	Mine Life	:	10 years.
11	Man power	:	20 Person
12	Water Requirement	:	3.04 KLD (Drinking: 0.30 KLD, Dust Suppression: 0.27 KLD, Plantation: 2.47 KLD)
13	Water Source	:	From Nearby villages by tankers
14	DG Set / power	:	20 KVA D.G. Set proposed
15	Crusher	:	No
16	Nearest Water Body	:	Sehra River – 6.81 km –SW direction
17	Nearest Habitation	:	Bohita Village –0.50 Km
18	Nearest Rail Station	:	Kechki Railway Station is at areal distance of 11.47 km in SW direction.
19	Nearest Air Port	:	Birsa Munda Airport (Ranchi) is at areal distance of 129.57 km SE direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Medninagar. letter no.- 184 Dated- 30/01/2024
21	Road & Highways	:	The distance of Approach Road is 68m, after that this road connects to village road. The village road continues for 3.2 km and after this the road connects to NH 39.

CO-ORDINATES

Point Name	Latitude	Longitude
1	23° 58' 2.899" N	84° 15' 1.912" E
2	23° 58' 1.934" N	84° 15' 1.746" E
3	23° 58' 1.313" N	84° 15' 2.148" E
4	23° 57' 59.429" N	84° 15' 2.383" E
5	23° 57' 59.739" N	84° 15' 3.552" E
6	23° 57' 59.227" N	84° 15' 3.388" E
7	23° 57' 59.058" N	84° 15' 5.936" E
8	23° 58' 1.988" N	84° 15' 6.970" E
9	23° 58' 2.658" N	84° 15' 5.080" E
10	23° 58' 3.788" N	84° 15' 5.166" E
11	23° 58' 4.104" N	84° 15' 3.946" E
12	23° 58' 4.530" N	84° 15' 2.567" E

LAND DETAILS

Khata no.	Plot no.
139 & 154	274 (P) & 84

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Palamau, Medininagar vide letter no. 238/M, dated 16.02.2024.
2	CO	:	The CO, Satbarwa, Palamau vide letter no. 491, dated 26.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Palamau, Medininagar vide memo no. 342/M, dated 25.02.2025 certified that 01 LoI (4.52 Acre) exists within 500 m radius from proposed project site and total area is 8.37 Acre.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no. 159, dated 26.02.2024 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Territorial	:	Divisional Forest Officer, Medininagar Forest Division vide letter no. 184, dated 30.01.2024 certified that the distance of reserved / protected forest is more than 250 meter from proposed project boundary.
6	DSR	:	This project is mentioned in approved DSR of Palamau District (Page no. 105, Sl. no. 15).
7	Gram Sabha	:	BDO, Satbarwa (Palamau) vide letter no. 1162, dated 10.11.2023 informed that Gram Sabha conducted on 26.10.2023.
8	Mine Plan Approval	:	Mine plan approved by Assistant Director, Geology, Palamau, Jharkhand vide memo no. 62, Dated 19.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	1.098 Ha	Life of Mine – 10year
3	Waste Generation	:	7828 cum	
4	Stripping Ratio	:	01:08	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	202m–196m AMSL	
8	Ground Level	:	196m AMSL	

	Elevation		
9	Ultimate Working Depth	:	162 m AMSL
10	Water Table	:	151 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	27.72kg Nitro mix explosives/day (will be obtain from licenced Vendors)
13	Diesel/Fuel requirement	:	HSD – 287.16 liters / day (86.14 KL/year)

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable 95%	T.F.	Tonnes	Cum
1st	25338	2.8	70946	5768
2nd	31209	2.8	87385	2060
3rd	31518	2.8	88250	0
4th	27089	2.8	75849	0
5th	29149	2.8	81617	0
Total	**144303**		**404048**	**7828**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/ Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Activities	0.000	0.617	0.480	1.098	Water body
2	Safety Zone	0.000	0.461	0.000	0.461	Plantation
3	Unutilized	**1.5580**	0.480	0.000	0.000	-
Total		**1.5580**	**1.5580**	**0.480**	**1.5580**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety		0.461 Ha	738

	Zone			
2	Along Approach Road		68m	88
TOTAL				**826**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **Budget for Environmental Management**

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	300000
2	Plantation 88 X 800 = Rs 70400 (Gabion Plantation along approach road) 738X 400 = 295200 (Plantation within lease area/Green Belt) (also includes Fertilizer, Pesticides, Maintenance)	365600	36560
3	Fencing	1,00000	-
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** *Source: Central Pollution Control BoardNotification, New Delhi, the 23rd February, 2022*	--	2,03,220
Total		**4,65,600**	**5,39,780**

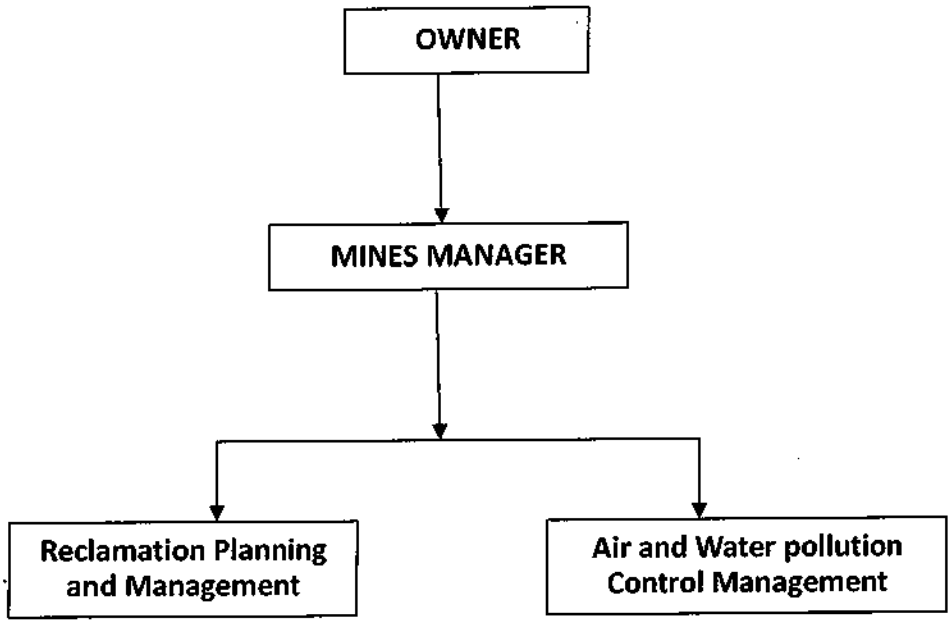
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

7828cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.

- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.

- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)

- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
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- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

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e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
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i. If any tree felling than necessary permission shall be taken from the competent authority.
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k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bohita Stone Mine of M/s Maa Vindhyavasini Stone Mines (Partners : (i) Shri Nishant Kumar Agarwal (ii) Shri Arvind Kumar Singh (iii) Shri Sanjay Bharti), Village : Bohita, Thana : Lesliganj, Thana no. : 238, Distt. : Palamau, Jharkhand (1.558 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

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II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
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VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

19. Chorhat Stone Mine of Shri Amit Kumar Sinha, Village : Chorhat, Thana : Chainpur, Distt. : Palamau, Jharkhand (2.16 Ha).

(Proposal no.: SIA/JH/MIN/ 533090 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 52542Cum. / annum or 147118 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Chorhat Stone Mine	
2	Lessee:	:	Shri Amit Kumar Sinha	
3	Lessee Address	:	Shri Amit Kumar Sinha S/o Shri Arun Kumar Sinha Vill – Santipuri, P.O&P.S. - Daltonganj, Palamu	
4	Lease Area	:	2.16 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 130.7 Lakhs	Recurring Cost: Rs. 22.33 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 8.989 Lakhs	Recurring Cost: Rs. 5.813Lakhs
8	New or	:	New	

	Expansion			
9	Mineable Reserves	:	cum.: 170364cum	Tonnes: 477019tons
10	Mine Life	:	5 years.	
11	Man power	:	32Person	
12	Water Requirement	:	6.34 KLD (Drinking: 0.48 KLD, Dust Suppression: 0.36KLD, Plantation: 5.50KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	North Koel River –12.52 km –E direction.	
17	Nearest Habitation	:	Chainpur Village – 13 km North direction	
18	Nearest Rail Station	:	Mangra Railway Station is at areal distance of9.14 km in South - East direction.	
19	Nearest Air Port	:	Birsa Munda Airport (Ranchi) is at areal distance of147.12 km SE direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Medninagar. letter no.- 1931 Dated- 05.07.2024	
21	Road & Highways	:	The distance of Approach Road is 90 m, after that this road for 9.60 km and after this the road connects to MDR Medininagar - Barwadih Road.	

CO-ORDINATES

Point Name	Latitude	Longitude
1	23° 53' 46.12147460" N	084° 01' 36.75309351" E
2	23° 53' 46.11428232" N	084° 01' 37.20153168" E
3	23° 53' 46.36963047" N	084° 01' 37.35838371" E
4	23° 53' 46.32788465" N	084° 01' 37.83253022" E
5	23° 53' 46.16572419" N	084° 01' 38.27858169" E
6	23° 53' 45.86066705" N	084° 01' 38.70706929" E
7	23° 53' 45.07598423" N	084° 01' 38.28397454" E
8	23° 53' 44.49689313" N	084° 01' 37.83840786" E
9	23° 53' 44.47132021" N	084° 01' 37.50673216" E
10	23° 53' 44.30552773" N	084° 01' 37.52094903" E
11	23° 53' 44.24510812" N	084° 01' 37.94000785" E

12	23° 53' 43.98357423" N	084° 01' 37.97427979" E
13	23° 53' 44.22173397" N	084° 01' 38.41184856" E
14	23° 53' 44.51858841" N	084° 01' 38.19955588" E
15	23° 53' 44.81544156" N	084° 01' 38.35253282" E
16	23° 53' 45.36731922" N	084° 01' 38.81681394" E
17	23° 53' 45.40768398" N	084° 01' 39.03432413" E
18	23° 53' 44.58177715" N	084° 01' 39.10972098" E
19	23° 53' 44.35622102" N	084° 01' 39.05521652" E
20	23° 53' 44.29229519" N	084° 01' 39.26900997" E
21	23° 53' 44.42564799" N	084° 01' 39.45882500" E
22	23° 53' 44.51881553" N	084° 01' 39.45283168" E
23	23° 53' 44.59735892" N	084° 01' 39.28699438" E
24	23° 53' 45.41713038" N	084° 01' 39.20159032" E
25	23° 53' 45.42056077" N	084° 01' 39.43272576" E
26	23° 53' 45.48906520" N	084° 01' 39.69809152" E
27	23° 53' 45.42341544" N	084° 01' 40.11019004" E
28	23° 53' 45.08089471" N	084° 01' 40.26628591" E
29	23° 53' 45.36633040" N	084° 01' 40.33184819" E
30	23° 53' 45.65176449" N	084° 01' 40.30375114" E
31	23° 53' 46.12843961" N	084° 01' 39.96028472" E
32	23° 53' 46.20374807" N	084° 01' 41.08272017" E
33	23° 53' 45.47764773" N	084° 01' 41.19038380" E
34	23° 53' 45.30924277" N	084° 01' 41.30589767" E
35	23° 53' 45.23502847" N	084° 01' 41.50882478" E
36	23° 53' 44.32334902" N	084° 01' 41.43689390" E
37	23° 53' 43.49841635" N	084° 01' 41.12065000" E
38	23° 53' 43.45562723" N	084° 01' 40.81350133" E
39	23° 53' 43.17064659" N	084° 01' 40.46384587" E
40	23° 53' 42.91489609" N	084° 01' 40.56973953" E

41	23° 53' 42.75961844" N	084° 01' 40.73158239" E
42	23° 53' 43.25833327" N	084° 01' 41.20112288" E
43	23° 53' 43.08591199" N	084° 01' 41.69296427" E
44	23° 53' 43.08661608" N	084° 01' 42.19415258" E
45	23° 53' 42.73039175" N	084° 01' 42.64970808" E
46	23° 53' 42.71212367" N	084° 01' 42.92543847" E
47	23° 53' 42.90028311" N	084° 01' 43.03133767" E
48	23° 53' 42.58059451" N	084° 01' 43.91047743" E
49	23° 53' 42.50386696" N	084° 01' 44.26612999" E
50	23° 53' 42.32666963" N	084° 01' 44.54985433" E
51	23° 53' 42.09722336" N	084° 01' 44.44971105" E
52	23° 53' 41.95926350" N	084° 01' 44.50853357" E
53	23° 53' 41.91951419" N	084° 01' 44.88192910" E
54	23° 53' 41.80785877" N	084° 01' 45.00141141" E
55	23° 53' 41.37585999" N	084° 01' 45.21951969" E
56	23° 53' 41.03329895" N	084° 01' 46.43800904" E
57	23° 53' 40.78897021" N	084° 01' 47.25875280" E
58	23° 53' 40.51676969" N	084° 01' 47.64658021" E
59	23° 53' 39.73467048" N	084° 01' 47.14706602" E
60	23° 53' 39.33791154" N	084° 01' 46.76931227" E
61	23° 53' 39.52991510" N	084° 01' 46.31078281" E
62	23° 53' 39.61044063" N	084° 01' 45.69905182" E
63	23° 53' 39.85121031" N	084° 01' 45.71221762" E
64	23° 53' 40.14181842" N	084° 01' 45.31910354" E
65	23° 53' 40.39391932" N	084° 01' 45.40301975" E
66	23° 53' 40.61158924" N	084° 01' 45.13574510" E
67	23° 53' 40.29413059" N	084° 01' 45.01165101" E
68	23° 53' 40.08169584" N	084° 01' 45.22101090" E
69	23° 53' 39.63031320" N	084° 01' 45.09931800" E

70	23° 53' 39.73261458" N	084° 01' 44.58781742" E
71	23° 53' 39.88789357" N	084° 01' 44.14025309" E
72	23° 53' 40.21854512" N	084° 01' 44.35005000" E
73	23° 53' 40.48891140" N	084° 01' 44.48191958" E
74	23° 53' 40.91273031" N	084° 01' 44.36603430" E
75	23° 53' 41.38404189" N	084° 01' 44.64376326" E
76	23° 53' 41.64029379" N	084° 01' 43.73317067" E
77	23° 53' 41.78776635" N	084° 01' 42.89746683" E
78	23° 53' 42.41252994" N	084° 01' 42.83952484" E
79	23° 53' 42.19331479" N	084° 01' 42.61374598" E
80	23° 53' 41.58513529" N	084° 01' 42.08402299" E
81	23° 53' 42.18417910" N	084° 01' 41.14917619" E
82	23° 53' 42.54246340" N	084° 01' 40.69571789" E
83	23° 53' 42.41618344" N	084° 01' 39.95434293" E
84	23° 53' 42.40065477" N	084° 01' 39.35780069" E
85	23° 53' 41.88401280" N	084° 01' 38.93633461" E
86	23° 53' 41.11107230" N	084° 01' 38.70445997" E
87	23° 53' 41.86172231" N	084° 01' 37.43476968" E
88	23° 53' 42.38352902" N	084° 01' 37.80306950" E
89	23° 53' 42.73746893" N	084° 01' 37.38784716" E
90	23° 53' 42.91913285" N	084° 01' 37.43064547" E
91	23° 53' 43.08748995" N	084° 01' 37.58026150" E
92	23° 53' 43.22291075" N	084° 01' 37.65340954" E
93	23° 53' 43.65691134" N	084° 01' 37.74120903" E
94	23° 53' 44.20280143" N	084° 01' 37.21515766" E
95	23° 53' 44.88481160" N	084° 01' 36.55793364" E
96	23° 53' 45.66928191" N	084° 01' 35.80197227" E
97	23° 53' 46.32338737" N	084° 01' 35.17163925" E
98	23° 53' 46.93859590" N	084° 01' 34.57878648" E

99	23° 53' 47.19013784" N	084° 01' 34.77277903" E
100	23° 53' 46.97974457" N	084° 01' 35.95877531" E
101	23° 53' 46.66970068" N	084° 01' 35.88990973" E
102	23° 53' 46.44486631" N	084° 01' 35.79228641" E
103	23° 53' 46.30438055" N	084° 01' 36.14618650" E
104	23° 53' 46.29102170" N	084° 01' 36.40580746" E

LAND DETAILS

Khata no.	Plot no.
01	80 (P), 164 & 165 (P)
14	162 (P) & 221
20	222

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Palamau, Medininagar vide letter no. 24/M, dated 03.01.2025.
2	CO	:	The CO, Chainpur, Palamau vide letter no. 90, dated 27.01.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Palamau, Medininagar vide memo no. 42/M, dated 07.01.2025 certified that 01 LoI (4.80 Acre) exists within 500 m radius from proposed project site and total area is 10.14 Acre.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no. 46, dated 28.01.2025 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Territorial	:	Divisional Forest Officer, Medininagar Forest Division vide letter no. 1931, dated 05.07.2024 certified that the distance of reserved / protected forest is more than 250 meter from proposed project boundary.
6	DSR	:	The DMO, Palamau, Medinagar has been certified vide memo no. 911/M, dated 16.04.2025 that this project is mentioned in approved DSR of Palamau District as a potential village (Page no. 156).

7	Gram Sabha	:	Gram Sabha conducted on 06.02.2023.
8	Mine Plan Approval	:	Mine plan approved by Assistant Director, Geology, Palamau, Jharkhand vide memo no. 61, Dated 19.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	1.012 Ha	Life of Mine – 5year
3	Waste Generation	:	40700cum	
4	Stripping Ratio	:	01:0.09	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	380m–365m AMSL	
8	Ground Level Elevation	:	365m AMSL	
9	Ultimate Working Depth	:	356 m AMSL	
10	Water Table	:	344 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	55.6kg Nitro mix explosives/day	
13	Diesel/Fuel requirement	:	HSD – 343 liters / day (102.9 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum	T.F.	Tonnes	Cum
1st	29716	2.8	83205	6992
2nd	52542	2.8	147118	27468
3rd	34020	2.8	95256	0
4th	36036	2.8	100901	0
5th	17672	2.8	49482	6240
Total	**169986**	**2.8**	**475961**	**40700**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Quarry	0.000	1.012	Water body
2	Garland drain	0.000	0.077	-
3	Safety Zone	0.000	1.071	Plantation
Total		**2.160**	**2.160**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Green Belt/Safety Zone	1.071 Ha	1714
3	Along Approach Road	90m	120
TOTAL			**1834**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **Budget for Environmental Management**

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 120X 800 = Rs 96,000 (Gabion Plantation along approach road) 1734 X 400 = 6,85,600 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	7,81,600	78,160
3	Fencing	1,17,300	

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610** **(Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022** *Source: CPCB Notification, New Delhi 23 Feb 2022*	--	2,03,220
Total		**8,98,900**	**5,81,380**

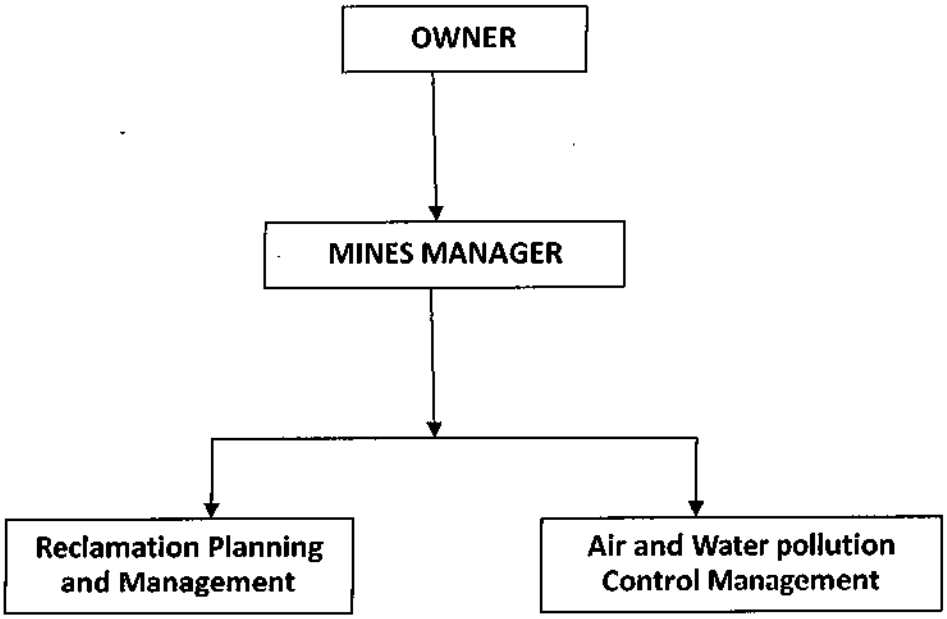
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

40700cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Chorhat Stone Mine of Shri Amit Kumar Sinha, Village : Chorhat, Thana : Chainpur, Distt. : Palamau, Jharkhand (2.16 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

20. Chorhat Stone Mine of Shri Amit Kumar Sinha, Village : Chorhat, Thana : Chainpur, Distt. : Palamau, Jharkhand (1.94 Ha).

(Proposal no.: SIA/JH/MIN/ 530725 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 109200Cum. / annum or 305760 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Chorhat Stone Mine	
2	Lessee:	:	Shri Amit Kumar Sinha	
3	Lessee Address	:	Shri Amit Kumar Sinha S/o Shri Arun Kumar Sinha Vill – Santipuri, P.O&P.S. - Daltonganj, Palamu Jharkhand	
4	Lease Area	:	1.94 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 207.24Lakhs	Recurring Cost: Rs. 49.69Lakhs
7	EMP Budget	:	Capital Cost: Rs. 5.80 Lakhs	Recurring Cost: Rs. 5.51 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 477191cum	Tonnes: 1336135tons
10	Mine Life	:	5 years.	
11	Man power	:	48Person	
12	Water Requirement	:	4.15 KLD (Drinking: 0.720 KLD, Dust Suppression: 0.360KLD, Plantation: 3.07KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	North Koel River – 12.52 km – SE	
17	Nearest Habitation	:	Chainpur– 12 km in the N direction.	
18	Nearest Rail Station	:	Mangra Railway Station is at areal distance of 15.76 km SW direction.	
19	Nearest Air Port	:	Birsa Munda Airport, Ranchi is at areal distance of 147 km SE direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Medninagar. letter no.- 1930 Dated- 05.07.2024	
21	Road & Highways	:	The distance of Approach Road is 90m, after that this road	

			connects to village road. The village road continues for 9.60 km and after this the road connects to MDR Medninagar - Barwadih Road

CO-ORDINATES

Point Name	Longitude	Latitude
1	084° 01' 30.80500902" E	23° 53' 44.16628739" N
2	084° 01' 31.04697380" E	23° 53' 44.04236721" N
3	084° 01' 31.45585787" E	23° 53' 44.12898047" N
4	084° 01' 31.71035193" E	23° 53' 44.33951624" N
5	084° 01' 32.19762048" E	23° 53' 44.64408118" N
6	084° 01' 32.87626789" E	23° 53' 44.63884577" N
7	084° 01' 33.47569298" E	23° 53' 44.56772299" N
8	084° 01' 34.15815792" E	23° 53' 44.38751306" N
9	084° 01' 34.42706926" E	23° 53' 44.42469302" N
10	084° 01' 34.77312243" E	23° 53' 44.28087899" N
11	084° 01' 35.26598203" E	23° 53' 44.12508107" N
12	084° 01' 35.59662317" E	23° 53' 43.83933118" N
13	084° 01' 35.57738008" E	23° 53' 43.63044388" N
14	084° 01' 35.48025107" E	23° 53' 43.26916362" N
15	084° 01' 35.44549827" E	23° 53' 42.27538749" N
16	084° 01' 35.09284921" E	23° 53' 41.61761518" N
17	084° 01' 35.03004026" E	23° 53' 41.17928977" N
18	084° 01' 34.86225627" E	23° 53' 41.11457496" N
19	084° 01' 34.92680856" E	23° 53' 40.85743790" N
20	084° 01' 34.77246450" E	23° 53' 40.33514605" N
21	084° 01' 34.54945725" E	23° 53' 39.92988916" N
22	084° 01' 34.46244399" E	23° 53' 39.28104054" N
23	084° 01' 34.32751594" E	23° 53' 38.97970173" N
24	084° 01' 33.98663997" E	23° 53' 39.06761151" N
25	084° 01' 33.98664017" E	23° 53' 38.87585660" N
26	084° 01' 34.22782794" E	23° 53' 38.61219605" N
27	084° 01' 34.03487773" E	23° 53' 37.80500577" N
28	084° 01' 33.85236235" E	23° 53' 37.27383905" N
29	084° 01' 33.41702536" E	23° 53' 37.29516774" N
30	084° 01' 33.16436188" E	23° 53' 37.51713943" N
31	084° 01' 33.30502292" E	23° 53' 37.91699270" N
32	084° 01' 33.02837100" E	23° 53' 38.11072695" N
33	084° 01' 32.64417370" E	23° 53' 38.36040193" N
34	084° 01' 32.59301774" E	23° 53' 38.84080855" N
35	084° 01' 32.69041766" E	23° 53' 39.33477151" N
36	084° 01' 32.40682743" E	23° 53' 39.50123791" N
37	084° 01' 32.40663644" E	23° 53' 39.93206783" N
38	084° 01' 32.54399320" E	23° 53' 40.26679875" N
39	084° 01' 31.62850396" E	23° 53' 40.34433473" N
40	084° 01' 31.70901381" E	23° 53' 41.05653733" N

41	084° 01' 31.75968865" E	23° 53' 41.76624905" N
42	084° 01' 30.97711581" E	23° 53' 41.85311973" N
43	084° 01' 30.13592060" E	23° 53' 42.00173656" N
44	084° 01' 30.36253498" E	23° 53' 42.80055764" N
45	084° 01' 30.54835356" E	23° 53' 43.66420640" N

LAND DETAILS

Khata no.	Plot no.
14	154

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by DMO, Palamau, Medininagar vide letter no. 25/M, dated 03.01.2025.
2	CO	:	The CO, Chainpur, Palamau vide letter no. 114, dated 01.02.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO Cluster	:	DMO, Palamau, Medininagar vide memo no. 41/M, dated 07.01.2025 certified that 01 LoI (5.34 Acre) exists within 500 m radius from proposed project site and total area is 10.14 Acre.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no. 46, dated 28.01.2025 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Territorial	:	Divisional Forest Officer, Medininagar Forest Division vide letter no. 1930, dated 05.07.2024 certified that the distance of reserved / protected forest is more than 250 meter from proposed project boundary.
6	DSR	:	The DMO, Palamau, Medinagar has been certified vide memo no. 912/M, dated 16.04.2025 that this project is mentioned in approved DSR of Palamau District as a potential village (Page no. 156).
7	Gram Sabha	:	Gram Sabha conducted on 06.02.2023.
8	Mine Plan Approval	:	Mine plan approved by Assistant Director, Geology, Palamau, Jharkhand vide memo no. 63, Dated 19.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	1.382 Ha	Life of Mine – 5years
3	Waste Generation	:	23,137 cum	
4	Stripping Ratio	:	01:0.02	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	382m–380m AMSL	
8	Ground Level Elevation	:	380m AMSL	
9	Ultimate Working Depth	:	339 m AMSL	
10	Water Table	:	331 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	170.1kg Nitro mix explosives/day	
13	Diesel/Fuel requirement	:	HSD – 495.06 liters / day (148.51 KL/year)	

Production Details

SUMMARY OF YEARWISE OF PRODUCTION			
Year	**Production in Cum/Year**	**O.B. in Cum/Year**	**Production in Tons/Year**
1st	84630	16640	236964
2nd	109200	0	305760
3rd	104390	0	292292
4th	94371	1602	264239
5th	84429	4895	236401
Total	**477020**	**23137**	**1335656**

Land Use pattern

SL. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Quarry	0.000	1.382	Water body
2	Safety Zone	0.000	0.566	Plantation
3	Stone Stock yards	0.000	0.000	
4	Unutilized	1.94	0.000	
Total		**1.94**	**1.94**	**-**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Green Belt/Safety	0.566 Ha	906

	Zone		
3	Along Approach Road	90m	120
Total			**1026**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 120 X 800 = Rs. 96,000 (Gabion Plantation along approach road) 960 X 400 = Rs. 3,84,400 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	4,80,000	48,000
3	Fencing	1,00,000	
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** *Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022*	--	2,03,220
Total		**5,80,000**	**5,51,220**

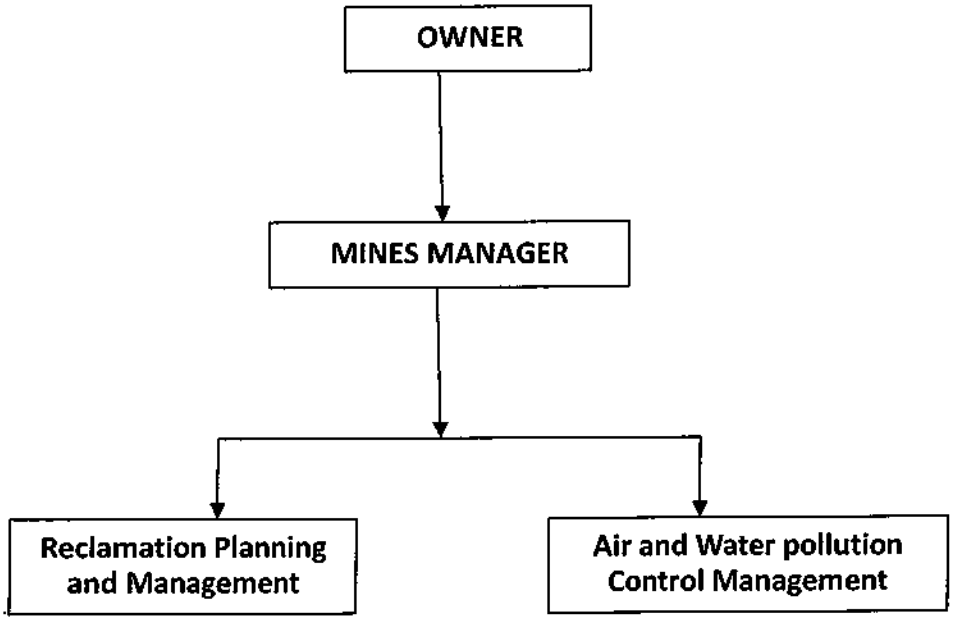
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

23,137 cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is **"Acceptable"**

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.

- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.

- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)

- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

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i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Chorhat Stone Mine of Shri Amit Kumar Sinha, Village : Chorhat, Thana : Chainpur, Distt. : Palamau, Jharkhand (1.94 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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21. Binderi (Bender Kola) Stone Mine of M/s Maa Vaishnavi Stone Works (Prop. : Shri Rajesh Kumar Jaiswal), Village : Binderi (Bender Kola), Thana : Borio, Thana no. : 07, Distt. : Sahibganj, Jharkhand (2.428 Ha).

(Proposal no.: SIA/JH/MIN/ 530583 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 60,840Cum. / annum or 1,89,952 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	BindriBendarkola Stone Mine	
2	Lessee:	:	M/S Maa Vaishnavi Stone Works Proponent Shri Rajesh Kumar Jaiswal,	
3	Lessee Address	:	M/S Maa Vaishnavi Stone Works Proponent Shri Rajesh Kumar Jaiswal, S/O Shri Harilal Bhagat, R/O Mahadevvaran, Po+Thana- Mirzachawki, Dist-Sahibganj, Jharkhand.	
4	Lease Area	:	2.428 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 180.84 Lakhs	Recurring Cost: Rs. 14.50

				Lakhs
7	EMP Budget	:	Capital Cost: Rs. 9.80 Lakhs	Recurring Cost: Rs. 5.61 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 1128160 cum	Tonnes: 1274560 tons
10	Mine Life	:	10 years.	
11	Man power	:	24 Person	
12	Water Requirement	:	6.066 KLD (Drinking: 0.360 KLD, Dust Suppression: 2.376 KLD, Plantation: 3.330 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	River Ganges – 16 km – SE direction.	
17	Nearest Habitation	:	BinderiBenderkola Village – 0.500 km in the N direction.	
18	Nearest Rail Station	:	Kalian Chak Railway Station at aerial distance of 11.79 km at East direction.	
19	Nearest Air Port	:	Deoghar Airport is at Aerial distance of 115 km SW direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Sahibganj. letter no.- 610 Dated- 25/03/2021	
21	Road & Highways	:	The distance of Approach Road is 594m, after that, this road connects to village road. The village road continues for 0.300 km and after this the road connects to SH 18 (Dumka - Sahibganj Road)	

CO-ORDINATES

POINT NAME	LATITUDE	LONGITUDE
1	25° 03' 23.91335089" N	087° 37' 24.62397253" E
2	25° 03' 24.27702233" N	087° 37' 26.05620825" E
3	25° 03' 24.71089448" N	087° 37' 27.76491476" E
4	25° 03' 25.20620136" N	087° 37' 29.71557003" E
5	25° 03' 24.34959084" N	087° 37' 30.05277817" E
6	25° 03' 22.90976565" N	087° 37' 30.62893821" E
7	25° 03' 21.70636615" N	087° 37' 31.09529398" E
8	25° 03' 20.22808216" N	087° 37' 31.72959846" E
9	25° 03' 19.92038695" N	087° 37' 30.31883998" E
10	25° 03' 19.43713551" N	087° 37' 28.01811720" E
11	25° 03' 19.09925003" N	087° 37' 26.16033166" E
12	25° 03' 20.39006359" N	087° 37' 25.78125956" E
13	25° 03' 22.31583692" N	087° 37' 25.14549849" E

LAND DETAILS

Khata no.	Plot no.
16	147 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1100/M, dated 09.10.2024.
2	CO	:	The CO, Borio vide memo no. 16 (Mu)/Ra., dated 26.12.2019 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II.
3	DMO Cluster and Grid Certificate	:	DMO, Sahibganj vide memo no. 375/M, dated 27.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also mentioned that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribagh vide letter no. 800, dated 19.04.2021 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 610, dated 25.03.2021 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 31, Page no. 166).
7	Gram Sabha	:	Gram Sabha conducted on 16.12.2019.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 376, dated 28.02.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	1.982 Ha	Life of Mine – 10year
3	Waste Generation	:	25600 cum	
4	Stripping Ratio	:	1:0.03	

5	Working Days	:	300
6	Benches: size	:	6 m x 6 m
7	Elevation of Mine	:	235m–140m AMSL
8	Ground Level Elevation	:	140m AMSL
9	Ultimate Working Depth	:	117 m AMSL
10	Water Table	:	113 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	60.984kg Nitro mix explosives/day
13	Diesel/Fuel requirement	:	HSD – 314.88 liters / day (94.464 KL/year)

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable 95%	T.F.	Tonnes	Cum
1st	54560	2.8	152768	10080
2nd	60960	2.8	170688	5120
3rd	56640	2.8	158592	3680
4th	67840	2.8	189952	2880
5th	64640	2.8	180992	3840
Total	**304640**		**852992**	**25600**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Quarry	0.000	1.982	0.000	1.982	Water body
2	Safety Zone	0.000	0.446	0.000	0.446	Plantation
3	Unutilized	2.428	0.000	0.000	0.000	Plantation
Total		**2.428**	**2.428**	0.000	**2.428**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety Zone		0.446 Ha	714
2	Along Approach Road		594 m	396
TOTAL				**1026**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **Budget for Environmental Management**

Sl. No.	**Particulars**	**Capital Cost in Rs.**	**Recurring Cost in Rs. per year**
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 264 X 800 = Rs. 211200 (Gabion Plantation along approach road) 714 X 400 = Rs. 285600 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	5,80,800	58080
3	Fencing	1,00,000	
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610** **(Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board**	--	2,03,220

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	Notification, New Delhi, the 23rd February, 2022		
Total		9,80,800	5,61,300

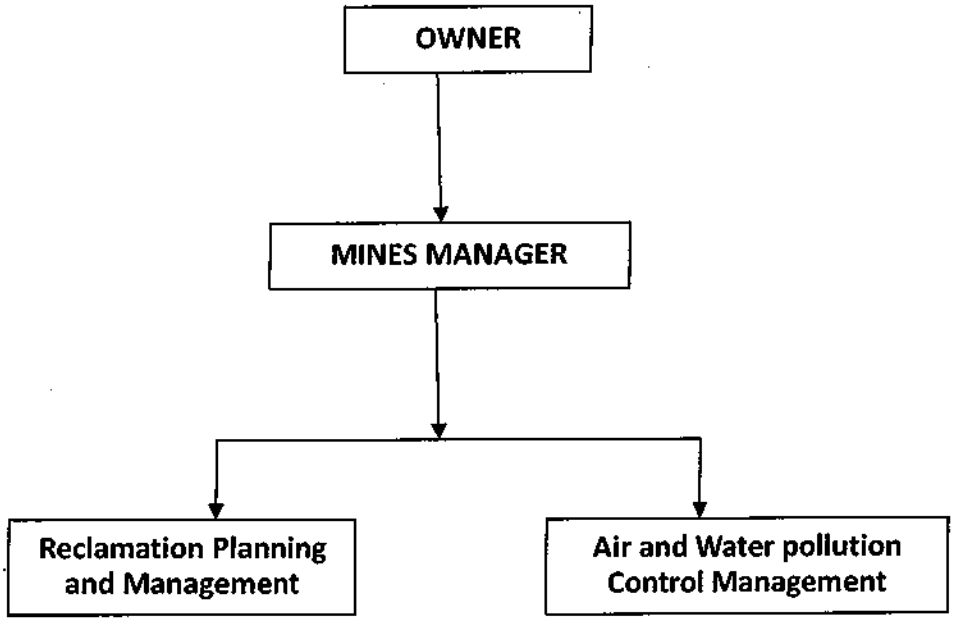
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

25600cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.

- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by	Very	Minor	20

		hitting by loading material, Exposure to Dust	Unlikely		
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.

- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.

- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.

b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Binderi (Bender Kola) Stone Mine of M/s Maa Vaishnavi Stone Works (Prop. : Shri Rajesh Kumar Jaiswal), Village : Binderi (Bender Kola), Thana : Borio, Thana no. : 07, Distt. : Sahibganj, Jharkhand (2.428 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near

mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

22. Chuwe Stone Mine of M/s Kishu Stone Works (Prop. : Shri Nikhil Kumar), Village : Chuwe, Thana : Mandro, Distt. : Sahibganj, Jharkhand (1.234 Ha).

(Proposal no.: SIA/JH/MIN/ 533157 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

Proposed Capacity- 35940 Cum (Max.) / 100632 Tonnes

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Chuwe Stone Mine Deposite Project Type – Stone Mine

2	Lessee:	:	M/s Kishu Stone Works Prop: - Shri Nikhil Kumar	
3	Lease Address	:	Village : Chuwe, Thana : Mandro, Distt. : Sahibganj, Jharkhand	
4	Lease Area	:	1.234 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost – Rs. 75.185 Lakhs	Recurring Cost – Rs.12.84 Lakhs
7	EMP Budget	:	Capital: Rs. 5.192 Lakhs	Recurring: Rs. 5.451 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	328607 cum	920100 Tons
10	Mine Life	:	10 years.	
11	Man power	:	18Person	
12	Water Requirement	:	3.422 KLD (Drinking: 0.270 KLD, Dust Suppression:0.800 KLD, Plantation: 2.352 KLD	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Ganga River – 9.89 km North-East direction	
17	Nearest Habitation	:	Bhawani Chauki Village – 2.07 Km in NE Direction	
18	Nearest Rail Station	:	Karamtola is at Aerial distance of 1.29 km in NE direction	
19	Nearest Air Port	:	Deoghar Airport is at Aerial distance of 122 km SW direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer ,sahibganj . letter no.- 2559 Dated- 05/10/2024	
21	Road & Highways	:	The distance of Approach Road is 200m, after that, this road connects to village road. The village road continues for 4.76 km and after this the road connects to MDR (Mandro Main Road)	

CO-ORDINATES

Point Name	Latitude	Longitude
1	25° 14' 50.56725816" N	087° 32' 40.43627010" E
2	25° 14' 50.50418465" N	087° 32' 41.45806839" E
3	25° 14' 50.36141648" N	087° 32' 42.37911337" E
4	25° 14' 50.14459717" N	087° 32' 43.49869170" E
5	25° 14' 49.98886871" N	087° 32' 44.30281814" E
6	25° 14' 49.70338878" N	087° 32' 45.43806960" E
7	25° 14' 49.13808455" N	087° 32' 45.02765532" E
8	25° 14' 48.18339901" N	087° 32' 44.89173628" E
9	25° 14' 48.27881692" N	087° 32' 44.08614688" E
10	25° 14' 47.89458616" N	087° 32' 43.36371378" E
11	25° 14' 47.77048963" N	087° 32' 42.86668001" E
12	25° 14' 47.57101377" N	087° 32' 41.64492342" E
13	25° 14' 47.20941824" N	087° 32' 40.96444301" E
14	25° 14' 46.77420391" N	087° 32' 40.41516450" E
15	25° 14' 47.49895516" N	087° 32' 39.46898824" E
16	25° 14' 47.57741408" N	087° 32' 39.24169884" E
17	25° 14' 47.70272679" N	087° 32' 39.12850688" E
18	25° 14' 48.03624348" N	087° 32' 38.79203861" E
19	25° 14' 48.69626852" N	087° 32' 39.02290631" E
20	25° 14' 48.60989663" N	087° 32' 39.43792363" E
21	25° 14' 48.70771677" N	087° 32' 39.73965304" E
22	25° 14' 48.79304922" N	087° 32' 39.87541689" E
23	25° 14' 49.50646567" N	087° 32' 39.79037940" E
24	25° 14' 49.78548518" N	087° 32' 40.08665625" E
25	25° 14' 50.27575475" N	087° 32' 40.51054256" E

LAND DETAILS

Khata no.	Plot no.
02, 15 & 17	67 (P), 68 (P) & 69 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 50/M, dated 09.01.2025.
2	CO	:	The CO, Mandro vide letter no. 689/Ra., dated 14.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II.
3	DMO Cluster and Grid Certificate	:	DMO, Sahibganj vide memo no. 569/M, dated 26.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also mentioned that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2377, dated 26.09.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 2559, dated 05.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has been certified vide memo no. 570/M, dated 26.03.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 186).
7	Gram Sabha	:	Gram Sabha conducted on 06.10.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 609, dated 29.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	0.909Ha. (During plan period)	Life of Mine – 10year
3	Waste Generation	:	19305 cum. O.B (During plan period)	

4	Stripping Ratio	:	1:0.04
5	Working Days	:	300
6	Benches: size	:	6 m x 6 m
7	Elevation of Mine	:	220 to 195 m AMSL
8	Ground Level Elevation	:	195 m AMSL
9	Ultimate Pit Depth	:	172 m
10	Water Table	:	Pre-Monsoon Depth to Water table- 16.85m Post Monsoon Depth to Water table- 12.69m
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	33.24 kg Nitro mix explosive will be obtain from licenced Vendors
13	Diesel/Fuel requirement	:	HSD –259.44 liters / day (778.44 KL/year)

Production Details

Year	**Production of Stone / Year**		**Removal of OB**
	Cum	**Tonnes**	**Cum**
1st	35940	100632	11020
2nd	30930	86604	8285
3rd	26838	75146	0
4th	32531	91087	0
5th	35940	91728	0
Total	**158999**	**445197**	**19305**

LAND USE

Existing, Proposed & Conceptual Land Use

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining	0.000	0.909	0.000	0.909	Water body

	Activities					
2	Safety Zone	0.000	0.325	0.000	0.325	Plantation
3	Unutilized	1.234	0.000	0.000	0.000	Plantation
Total		**1.234**	**1.234**	0.000	**1.234**	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone		0.325 Ha	520
2	Along Approach Road		0.200km	264
TOTAL				**784**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **EMP BUDGET**

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	1,00,000	
3	Plantation 264 X 800 = Rs 2,11,200(Gabion Plantation along approach road) 815 X 400 = Rs 2,08,000 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	4,19,200	41,920

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per y(r
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610** **(Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**Rs 5,19,200**	**Rs 5,45,140**

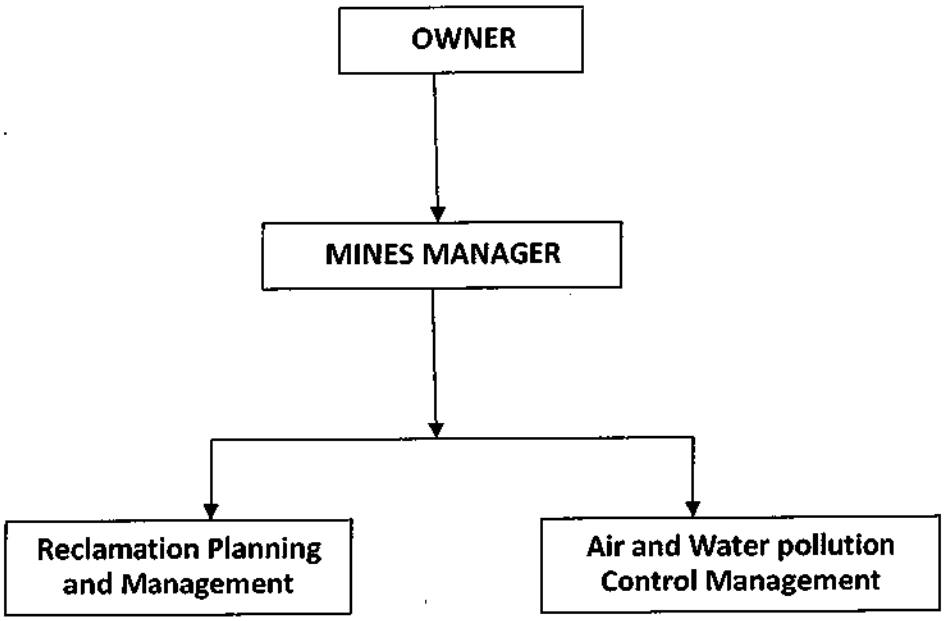
Environment Monitoring Programme

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	One Day Monitoring (within 6 months)
2.	Water	2 stations	One Day Monitoring (within 6 months)
3.	Soil	3 stations	One Day Monitoring (within 6 months)
4.	Noise	3 stations	One Day Monitoring (within 6 months)

Solid Waste Management

19305 cum. O.B shall be generated during the plan period which shall be backfilled within the exhausted quarry.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Chuwe Stone Mine of M/s Kishu Stone Works (Prop. : Shri Nikhil Kumar), Village : Chuwe, Thana : Mandro, Distt. : Sahibganj, Jharkhand (1.234 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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23. Churi Stone Mine of M/s Baba Gajeshwar Construction & Mining (Partner : Shri Pranav Kedia & Shri Pappu Kumar Bhagat), Village : Churi, Thana : Borio - 17, Distt. : Sahibganj, Jharkhand (2.81 Ha).

(Proposal no.: SIA/JH/MIN/ 535054 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 132,783 Cum. / annum or 371,792 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Churi Stone Mine	
2	Lessee:	:	M/S Baba Gajeshwar Construction & Mining. Partner : Shri Pranav Kedia	
3	Lessee Address	:	M/S BABA GAJESHWAR CONSTRUCTION & MINING. Partners–1. Shri Pranav Kedia, S/O Shri Prakash Kediya, R/O Main Road Barharwa, Po+Ps- Barharwa, Sahebganj. 2. Shri Pappu Kumar Bhagat, R/o Barhait, Sahebganj. (Partnership firm)	
4	Lease Area	:	2.81 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs.258.94 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 5.56 Lakhs	Recurring Cost: Rs. 5.48 Lakhs/year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 1100990cum	Tonnes: 3082772 tons
10	Mine Life	:	10 years.	
11	Man power	:	37 Person	
12	Water Requirement	:	3.974 KLD (Drinking: 0.555 KLD, Dust Suppression: 0.188 KLD, Plantation: 3.231 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	Gumani River flowing SE to NW at 6.81 km SW Direction.	
17	Nearest Habitation	:	Churi Village – 1.23 km in the N direction.	

18	Nearest Rail Station	:	Kalian Chak Railway Station at aerial distance of 6.48 km at East direction.
19	Nearest Air Port	:	Deoghar Airport is at Aerial distance of 117 km SW direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Sahebganj. letter no.- 610 Dated- 25/03/2021
21	Road & Highways	:	The distance of Approach Road is 47m, after that, this road connects to village road. The village road continues for 1.6 km and after this the road connects to MDR (Rajmahal – Tinpahar – Borio Road).

CO-ORDINATES

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29	25° 01' 27.98328798" N	087° 40' 30.34527110" E
30	25° 01' 28.69172295" N	087° 40' 31.56152930" E
31	25° 01' 29.42138304" N	087° 40' 32.81422933" E

LAND DETAILS

Khata no.	Plot no.
04	76 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 144/M, dated 04.02.2025.
2	CO	:	The CO, Borio vide memo no. 668/Ra., dated 12.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster and Grid Certificate	:	DMO, Sahibganj vide memo no. 156/M, dated 05.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also mentioned that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1922, dated 20.08.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 2373, dated 26.09.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has been certified vide memo no. 627/M, dated 08.04.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 197).
7	Gram Sabha	:	Gram Sabha conducted on 25.07.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 572, dated 26.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	2.810 Ha	Life of Mine – 10year
3	Waste Generation	:	29229 cum	

4	Stripping Ratio	:	01:0.18
5	Working Days	:	300
6	Benches: size	:	6 m x 6 m
7	Elevation of Mine	:	245m–205m AMSL
8	Ground Level Elevation	:	205 m AMSL
9	Ultimate Working Depth	:	81 m AMSL
10	Water Table	:	Post Monsoon – 173m AMSL Pre Monsoon – 170 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	121.968 kg Nitro mix explosives/day
13	Diesel/Fuel requirement	:	HSD – 398.04 liters / day (119.41 KL/year)

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum	T.F.	Tonnes	Cum
1st	80281	2.8	224787	14679
2nd	132783	2.8	371792	3150
3rd	107100	2.8	299880	5100
4th	115650	2.8	323820	3000
5th	119700	2.8	335160	3300
Total	**555514**		**1555439**	**29229**

Land Use pattern

Si. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Activities	0.000	2.180	0.000	2.180	Water body
2	Safety Zone	0.000	0.633	0.000	0.633	Plantation

Total	**2.810**	**2.810**	**0.000**	**2.810**	**-**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety Zone		0.633 Ha	1583
2	Along Approach Road		0.047 km	64
TOTAL				**1647**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **Budget for Environmental Management**

Sl. No.	**Particulars**	**Capital Cost in Rs.**	**Recurring Cost in Rs. per year**
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 64 X 800 = Rs 51,200 (Gabion Plantation along approach road) 1013 X 400 =405,200 (Plantation within lease area/Green Belt) (also includes Fertilizer, Pesticides, Maintenance)	4,56,400	45,640
3	Fencing	1,00,000	
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610** **(Per Season)** **At least two seasons in a Year -Rs.**	--	2,03,220

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	1,01,610 x 2 = Rs. 2,03,220 Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022		
Total		5,56,400	5,48,860

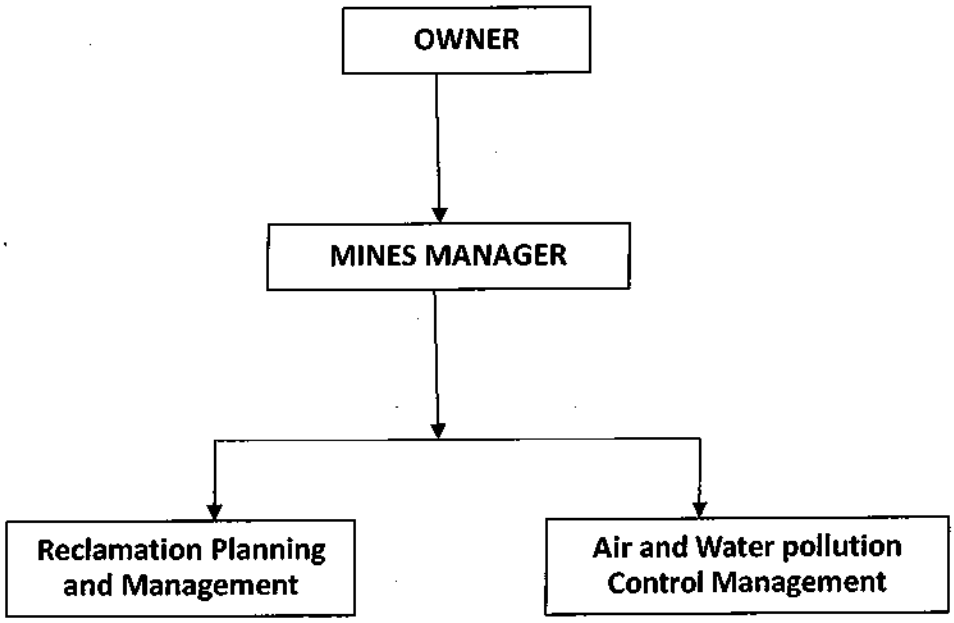
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

29229cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.

- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by	Very	Minor	20

		hitting by loading material, Exposure to Dust	Unlikely		
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.

- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.

- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an

interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Churi Stone Mine of M/s Baba Gajeshwar Construction & Mining (Partner : Shri Pranav Kedia & Shri Pappu Kumar Bhagat), Village : Churi, Thana : Borio - 17, Distt. : Sahibganj, Jharkhand (2.81 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines

owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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24. Pipaljori Stone Mine of M/s Raj Black Stone (Partner : Rabiul Shekh), Village : Pipaljori, Thana : Barharwa, Distt. : Sahibganj, Jharkhand (2.804 Ha).

(Proposal no.: SIA/JH/MIN/ 533792 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 57,596Cum. / annum or 1,61,269 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Pipaljori Stone Mine	
2	Lessee:	:	M/s Raj Black Stone Proponent Rabiul Shekh,	
3	Lessee Address	:	M/S Raj Black Stone Proponent: Rabiul Shekh S/O- Jairuddin Shekh R/O- Udaynarayanpur, P.O- Jhikarhati, P.O + Dist.- Pakur, Jharkhand	
4	Lease Area	:	2.804 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 104.89 Lakhs	Recurring Cost: Rs. 15.23 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 10.47Lakhs	Recurring Cost: Rs. 5.97Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 4,79,080 cum	Tonnes: 13,41,424 tons
10	Mine Life	:	10 years.	
11	Man power	:	20Person	
12	Water Requirement	:	5.74 KLD (Drinking: 0.300 KLD, Dust Suppression: 0.772KLD, Plantation: 4.677KLD)	
13	Water Source	:	From Nearby villages tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	YES 60 TPH	
16	Nearest Water Body	:	Ganga river 14.54 km Eastern side.	
17	Nearest Habitation	:	Pipaljori Village – 0.821 km in SE Direction	
18	Nearest Rail Station	:	Kotalpukur is at Aerial distance of 3.62 km in East direction.	
19	Nearest Air Port	:	Deoghar Airport is at Aerial distance of 114 km SW direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Sahibganj. letter no.- 2697 Dated- 21.10.2024	
21	Road & Highways	:	The distance of Approach Road is 193m, after that, this road connects to village road. The village road continues for 4.5 km and after this the road connects to MDR (Pakur Road).	

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 45' 01.10194464" N	087° 47' 18.65394052" E
2	24° 45' 01.00764793" N	087° 47' 19.90837811" E
3	24° 45' 00.80631163" N	087° 47' 20.65206035" E
4	24° 45' 00.33227899" N	087° 47' 21.43783781" E
5	24° 44' 59.53821717" N	087° 47' 21.56412347" E
6	24° 44' 59.31030367" N	087° 47' 23.41070051" E
7	24° 44' 59.05289305" N	087° 47' 23.80662193" E
8	24° 44' 58.94787142" N	087° 47' 24.60702621" E
9	24° 44' 58.71403887" N	087° 47' 25.12889020" E
10	24° 44' 58.14242005" N	087° 47' 26.27685888" E
11	24° 44' 57.28672551" N	087° 47' 25.77714827" E
12	24° 44' 57.11070570" N	087° 47' 26.19986695" E
13	24° 44' 56.59910144" N	087° 47' 26.01751022" E
14	24° 44' 55.72326806" N	087° 47' 25.65880057" E
15	24° 44' 55.41930217" N	087° 47' 25.40496430" E
16	24° 44' 55.24042362" N	087° 47' 24.99838099" E
17	24° 44' 54.69346059" N	087° 47' 24.74183777" E
18	24° 44' 54.56836657" N	087° 47' 24.85348280" E
19	24° 44' 54.31619403" N	087° 47' 24.78826662" E
20	24° 44' 53.57072843" N	087° 47' 24.78984519" E
21	24° 44' 53.13248906" N	087° 47' 24.45062500" E
22	24° 44' 53.62312871" N	087° 47' 23.34341413" E
23	24° 44' 54.30743323" N	087° 47' 23.68572262" E
24	24° 44' 54.51292666" N	087° 47' 23.26594206" E
25	24° 44' 55.50244158" N	087° 47' 21.65743656" E
26	24° 44' 56.66541332" N	087° 47' 22.37406560" E
27	24° 44' 57.27926735" N	087° 47' 21.33697064" E
28	24° 44' 56.81832049" N	087° 47' 20.60798469" E
29	24° 44' 56.97386157" N	087° 47' 20.16658430" E
30	24° 44' 56.99060349" N	087° 47' 19.63580164" E
31	24° 44' 57.36532376" N	087° 47' 19.09526878" E
32	24° 44' 57.60750819" N	087° 47' 18.58489958" E
33	24° 44' 58.04302555" N	087° 47' 17.89324479" E
34	24° 44' 58.23690188" N	087° 47' 17.58436269" E
35	24° 44' 58.93948662" N	087° 47' 17.93726938" E
36	24° 44' 59.74710283" N	087° 47' 18.19206473" E
37	24° 45' 00.38648694" N	087° 47' 18.43632927" E

LAND DETAILS

Khata no.	Plot no.
67	01
12	02, 03 & 04
71	06, 20, 21, 22, 23, 24 & 25
56	07, 14, 15, 16, 26 & 27
02	13

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 152/M, dated 05.02.2025.
2	CO	:	The CO, Barharwa, Sahibganj vide letter no. 1026/Ra., dated 28.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster and Grid Certificate	:	DMO, Sahibganj vide memo no. 197/M, dated 07.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also mentioned that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2696, dated 21.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 2697, dated 21.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has been certified vide memo no. 689/M, dated 25.04.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 177).
7	Gram Sabha	:	Gram Sabha conducted on 18.09.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 516, dated 20.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	2.123 Ha	Life of Mine – 10year
3	Waste Generation	:	1,26,610 cum O.B (During Mine Plan Period)	
4	Stripping Ratio	:	1:0.7	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	60m–49m AMSL	
8	Ground Level Elevation	:	49m AMSL	
9	Ultimate Pit Depth	:	19 m AMSL	
10	Water Table	:	Pre Monsoon 6m AMSL Post Monsoon 11m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	44.352kg Nitro mix explosives/day (will be obtain from licenced Vendors)	
13	Diesel/Fuel requirement	:	HSD – 288 liters / day (86.4 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable 95%	T.F.	Tonnes	Cum
1st	56307	2.8	157660	120560
2nd	56307	2.8	157660	0
3rd	53019	2.8	148453	0
4th	56839	2.8	159149	6050
5th	57596	2.8	161269	0
Total	**280068**		**784190**	**126610**

Land Use pattern

Si. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land to be used in remaining period of the life of the mine. (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining	0.000	1.491	0.414	1.905	Water

	Quarry					body
2	Garland drain	0.000	0.041	0.000	0.041	Included in safety zone
3	Settling Tank	0.000	0.015	0.000	0.015	-
4	Safety Zone	0.000	0.611	0.000	0.611	Plantation
5	Unutilized	2.804	0.414	0.000	0.000	Plantation
6	Crusher	0.203	0.203		0.203	Plantation
Total		**2.804**	**2.804**	**0.414**	**2.804**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety Zone		0.611 Ha	1527
2	Crusher		0.203	325
3	Along Approach Road		193m	258
TOTAL				**2110**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 258 X 800 = Rs 2,06,400 (Gabion	947200	94720

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	Plantation along approach road) 1303 X 400 = 7,40,800 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)		
3	Fencing	1,00,000	-
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**1047200**	**597940**

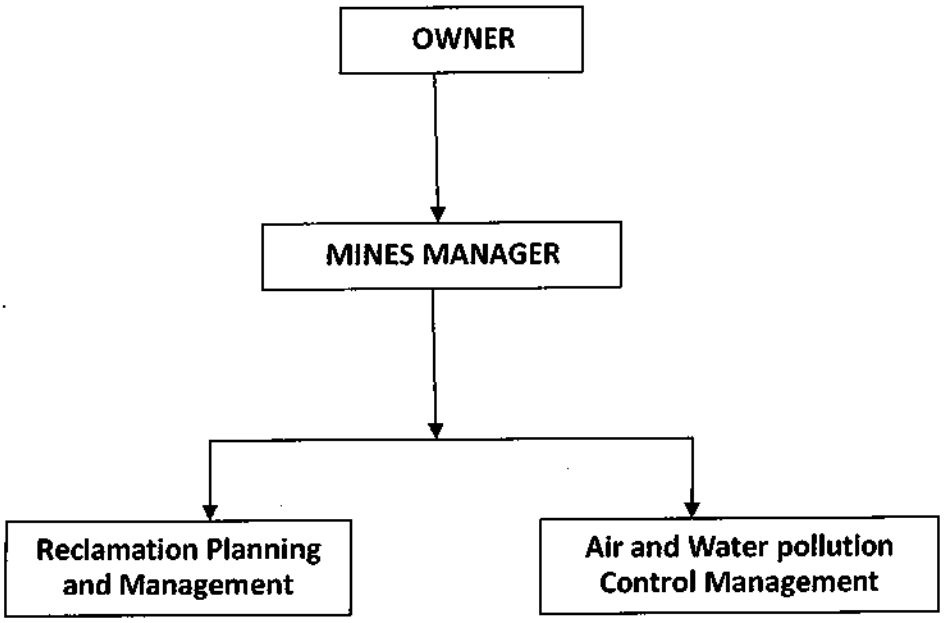
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

1,26,610 cum.O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Pipaljori Stone Mine of M/s Raj Black Stone (Partner : Rabiul Shekh), Village : Pipaljori, Thana : Barharwa, Distt. : Sahibganj, Jharkhand (2.804 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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25. Futabandh Stone Mine of M/s Viraj Engicon Pvt. Ltd. (Director : Shri Purosttam Saran Prasant), Village : Futabandh, Thana : Rikhiya, Distt. : Deoghar, Jharkhand (1.78 Ha).

(Proposal no.: SIA/JH/MIN/ 533849 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity:69469 Cum. / 187566 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Futabandh Stone Mine Deposit	
2	Lessee:	:	**M/S Viraj EngiconPvt. Ltd.** Shri Purosttam Saran Prasant S/O Late Kamlasaran Singh	
3	Lessee Address	:	**M/S Viraj EngiconPvt. Ltd.** Director- Shri Purosttam Saran Prasant S/O Late Kamlasaran Singh Address -Srikant road, Belabagan, Post- Deoghar Dist- Deoghar State- Jharkhand	
4	Lease Area	:	1.78Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 130.19 Lakhs	
7	EMP Budget	:	Capital Cost: Rs 5.14Lakhs	Recurring Cost: Rs. 5.07Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.:297431 cum	Tonnes: 803064tons
10	Mine Life	:	05 years.	
11	Man power	:	21Person	
12	Water Requirement	:	3.5 KLD (Drinking: 0.315 KLD, Dust Suppression: 1.068 KLD, Plantation: 2.040 KLD	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Chhatimi Nadi 11.98 kmSW	
17	Nearest Habitation	:	Paharidih Village – 0.54 Km in NW Direction	

18	Nearest Rail Station	:	0.652 km East side connect MDR (Mohanpur-Deoghar Road)
19	Nearest Air Port	:	Nearest Airport Deoghar is about 9.97 km South direction away from applied area.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Deogarh. letter no.-868 Dated- 15/05/23
21	Road & Highways	:	A cart road is well connected to applied lease area from village road 0.272 km South

CO-ORDINATES

Point Name	Latitude	Longitude
1	24°31'42.03" N	86°43'35.85" E
2	24°31'42.69" N	86°43'31.23" E
3	24°31'43.21" N	86°43'30.88" E
4	24°31'44.99" N	86°43'31.65" E
5	24°31'47.87" N	86°43'33.40" E
6	24°31'48.61" N	86°43'34.40" E
7	24°31'48.36" N	86°43'35.58" E
8	24°31'46.87" N	86°43'35.89" E
9	24°31'44.05" N	86°43'35.62" E
10	24°31'43.84" N	86°43'35.28" E
11	24°31'42.48" N	86°43'35.95" E
12	24°31'42.39" N	86°43'36.11" E

LAND DETAILS

Khata no.	Plot no.
03	63

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 834/M, dated 15.06.2023.
2	CO	:	The CO, Mohanpur vide letter no. 484/Ra., dated 29.04.2023 has

			mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 410/M, dated 12.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1073, dated 06.06.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 868, dated 15.05.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 61, Sl. No. 02).
7	Gram Sabha	:	BDO, Mohanpur vide letter no. 657/Vi., dated 09.05.2023 informed that Gram Sabha conducted on 02.05.2023.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Letter No. 380/DDM, dated 03.08.2023.
9	Qualified Person	:	Shri A.K. Sinha vide letter dated 07.05.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.181Ha	Life of Mine – 05year
3	Waste Generation	:	15437cum	
4	Stripping Ratio	:	1:0.2	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	248m–242 m AMSL	
8	Ground Level Elevation	:	242 AMSL	
9	Ultimate Pit Depth	:	31m	
10	Water Table	:	204m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	56 kg Power Gel Cartridge or slurry. will be obtain from licenced Vendors	
13	Diesel/Fuel	:	HSD –314.88 liters / day (944.64KL/year)	

	requirement		

Production Details

Year	Production of Stone / Year		O.B Removal
	Cum	Tonnes	Cum
1st	59301	160113	8309
2nd	64178	173281	7128
3rd	69469	187566	0
4th	54871	148152	0
5th	49602	133925	0
Total	297421	803037	15437

Land Use pattern

Si. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Land used at the conceptual stageie end of mine life in (Ha)	Area to be converted in the conceptual period.
1	Mining Activities	0.00	1.181	Water body
2	Offices/ Store etc.	0.00	0.008	Plantation
3	Dumping	0.00	0.020	-
4	Mining Road	0.00	0.008	Water body
5	Garland drain	0.00	0.056	-
6	Settling Tank	0.00	0.024	-
7	Green belt/Safety Zone	0,00	0.32	Green Belt
9	Unutilized	1.72	0.15	Plantation
Total		1.78	1.78	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone/ Dumping/		0.202 Ha	324

	Offices/ Store etc.			
2	Along Approach Road		267m	356
TOTAL				**680**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **Budget for Environmental Management**

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	1,00,000	
3	Plantation 356 X 800 = Rs 2,84,800(Gabion Plantation along approach road) 324 X 400 = Rs 1,29,600 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	4,14,400	41,440
4	Environmental Monitoring (One Day Monitoring) · Ambient Air 24 hrs (3 point) -Rs.27,270 · Ground Water (2 point) -Rs.12,420 · Noise 24 hrs (3 point) -Rs.21,000 · Soil (3 point) - Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd**	--	2,03,220

	February, 2022		
Total		Rs 5,14,400	Rs 5,07,360

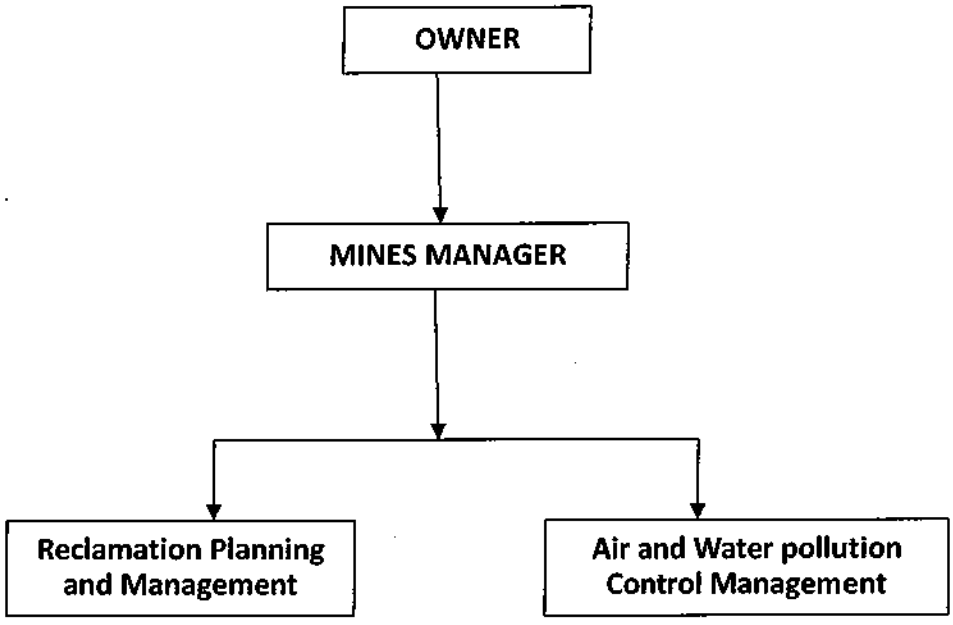
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

15437cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.

- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping	Probable	Moderate	6

		(Bodily Injury)			
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.

- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.

- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an

interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Futabandh Stone Mine of M/s Viraj Engicon Pvt. Ltd. (Director : Shri Purosttam Saran Prasant), Village : Futabandh, Thana : Rikhiya, Distt. : Deoghar, Jharkhand (1.78 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a

time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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26. Badia Stone Mine of Shri Purosttam Saran Prasant, Village : Badia, Thana : Karon, Distt. : Deoghar, Jharkhand (0.95 Ha).

(Proposal no.: SIA/JH/MIN/ 533961 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 07.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity:12054 Cum. (Max.) / 32546 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Badia Stone Deposit	
2	Lessee:	:	Prop- Shri Purosttam Saran Prasant S/O Late Kamlasaran Singh	
3	Lessee Address	.:	Applicant Address -Srikant road, Belabagan, Post- Deoghar State- Jharkhand	
4	Lease Area	:	0.95Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs.78.48 Lakhs	Recurring Cost: Rs. 6.58 Lakhs
7	EMP Budget	:	Capital Cost: Rs 8.7Lakhs	Recurring Cost: Rs. 5.8Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 54956cum	Tonnes: 148381tons
10	Mine Life	:	05 years.	
11	Man power	:	16Person	
12	Water Requirement	:	7.21 KLD (Drinking: 0.240 KLD, Dust Suppression: 2.488 KLD, Plantation: 4.482 KLD	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	25 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Baghdaru River – 0.15 km North-East direction	
17	Nearest Habitation	:	Bansjora Village – 0.48 Km in NW Direction	
18	Nearest Rail Station	:	5.73 km ES from nearest railway station Madankata	
19	Nearest Air Port	:	Airport Deoghar is about 29.85 km north direction	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Deogarh. letter no.-933 Dated- 23/05/23	
21	Road & Highways	:	A cart road is well connected to applied lease area from village road 0.622 km west direction this road after 4.54 km west side connect MDR (Madhupur-Jamtara Road), from the mine site	

CO-ORDINATES

Point Name	Latitude	Longitude
1	24°10'45.53" N	86°39'02.63" E
2	24°10'47.35" N	86°39'01.83" E
3	24°10'48.05" N	86°39'01.33" E
4	24°10'48.97" N	86°39'01.39" E

5	24°10'49.88" N	86°39'01.07" E
6	24°10'50.43" N	86°39'01.74" E
7	24°10'51.79" N	86°39'01.42" E
8	24°10'51.81" N	86°39'02.58" E
9	24°10'50.86" N	86°39'04.60" E
10	24°10'49.44" N	86°39'03.78" E
11	24°10'49.80" N	86°39'02.32" E
12	24°10'48.76" N	86°39'02.15" E
13	24°10'48.21" N	86°39'03.03" E
14	24°10'48.57" N	86°39'03.53" E
15	24°10'48.15" N	86°39'04.14" E
16	24°10'46.41" N	86°39'03.35" E

LAND DETAILS

Khata no.	Plot no.
06 & 08	04, 05 & 50

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 850/M, dated 17.06.2023.
2	CO	:	The CO, Karon (Deoghar) vide letter no. 238/Ra., dated 17.05.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in Khatiyan & Register II and also mentioned that the habitation within 500 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 412/M, dated 12.04.2025 certified that 01 other mining lease area (4.00 Acre) exists within 500 meters radius from proposed project site and total area is 6.34 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1070, dated 06.06.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 933, dated 23.05.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 66, Sl. No. 30).

7	Gram Sabha	:	BDO, Karon (Deoghar) vide letter no. 391/Vi., dated 17.05.2022 informed that Gram Sabha conducted on 04.05.2023.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 381, dated 03.08.2023.
9	Qualified Person	:	Shri A.K. Sinha vide letter dated 07.05.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	0.453 Ha	Life of Mine – 05year
3	Waste Generation	:	4380cum	
4	Stripping Ratio	:	1:0.3	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	223m–213m AMSL	
8	Ground Level Elevation	:	213 AMSL	
9	Ultimate pit depth	:	19m	
10	Water Table	:	184m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	16 kg Power Gel Cartridge or slurry. (will be obtain from licenced Vendors)	
13	Diesel/Fuel requirement	:	HSD –231.72 liters / day (695.16KL/year)	

Production Details

Year	Production of Stone / Year		Removal of O.B.	
	Cum	Tonnes	Tonnes	Cum
1st	10920	29484	98	2860
2nd	10920	29484	98	0
3rd	9776	26395	88	0
4th	12054	32546	108	1520
5th	11210	30267	101	0
Total	**54880**	**148176**	**99**	**4380**

Land Use pattern

Si. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Land used at the conceptual stageie end of mine life in (Ha)	Area to be converted in the conceptual period.
1	Mining Activities	0.00	0.45	Water body
2	Offices/ Store etc.	0.00	0.008	Plantation
3	Dumping	0.00	0.020	-
4	Mining Road	0.00	0.016	Water body
5	Garland drain	0.00	0.040	-
6	Settling Tank	0.00	0.012	Green Belt
7	Green belt/Safety Zone	0,00	0.026	Green Belt
8	Unutilized	0.95	0.13	Plantation
Total		**0.95**	**0.95**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone/ Dumping/ Offices/ Store etc.		0.176 Ha	282
2	Along Approach Road		622 m	830
TOTAL				**1112**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
2	Fencing	1,00,000	
3	Plantation 830 X 800 = Rs 6,64,000(Gabion Plantation along approach road) 282 X 400 = Rs112,800(Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	776800	77680
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**Rs 876,800**	**Rs 580900**

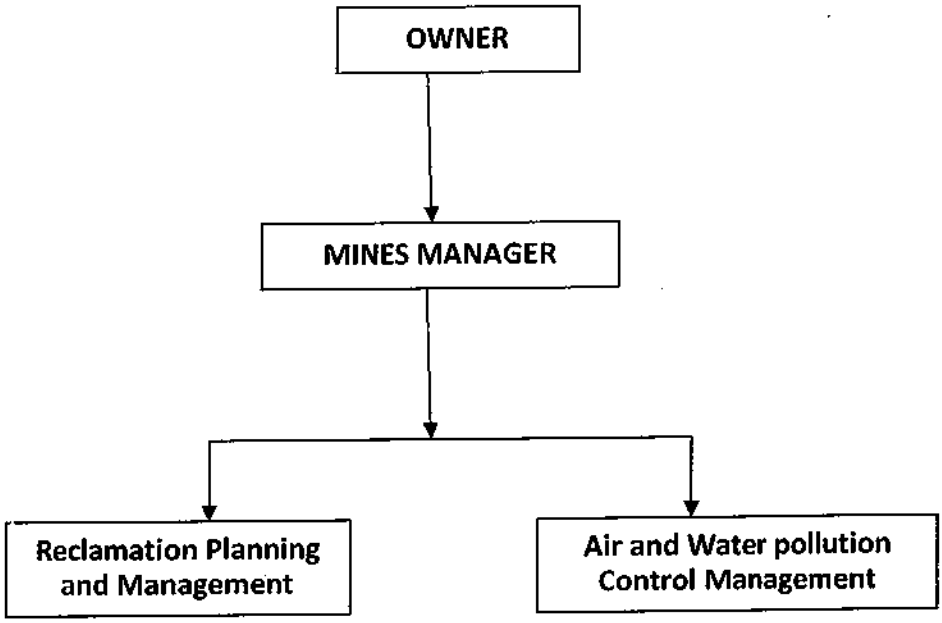
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

4380 cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
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- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

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Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

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The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

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- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
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- Explosives and detonators shall not be carried in the same container
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The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

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- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
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f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Badia Stone Mine of Shri Purosttam Saran Prasant, Village : Badia, Thana : Karon, Distt. : Deoghar, Jharkhand (0.95 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. **The PAs shall carried out mining activity only after the permission of resident (if any) situtated near to ML area.**
II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
III. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land avallable near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.
VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.
VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.
IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

Day 2 : May 08th, 2025 [Thursday]

Consideration of proposals

1. **Naridumri Stone Mine of M/s Mahalaxmi Minerals (Partner : Smt. Ragini Kumari & Shri Gendhari Yadav), Village : Naridumri, Tehsil : Madhupur, Distt. : Deoghar, Jharkhand (2.44 Ha).**

(Proposal no.: SIA/JH/MIN/ 533806 /2025)

Name of the consultant : Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for : Total Excavation - Stone – 300 TPD
Annual Production – 127659m^3/344679 TPA

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Naridumri Stone Mine	
2	Lessee:	:	M/s Mahalaxmi Minerals, Proprietor- Smt. Ragini Kumari	
3	Lease Address	:	At: Village - Naridumri,P.S. – Jasidih, District – Deoghar, Jharkhand.	
4	Lease Area	:	2.44 ha	Acres:6.04
5	Type of Land	:	Non-Forest – Rayati Land	
6	Project Cost	:	Rs. 107.98 Lakhs	
7	EMP Budget	:	Capital: Rs. 5.68Lakhs	Recurring: Rs. 3.25Lakhs/ year Monitoring cost: Rs. 0.90 Lakhs/year
8	CSR / CER Budget	:	Rs. 2.15 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	434894 cum.	Tonnes:1174214
11	Mine Life	:	5 years only	
12	Manpower	:	56 Person	
13	Water Requirement	:	7.39KLD (Drinking: 0.84KLD, Dust Suppression: 3.85 KLD& Plantation:2.7KLD)	
14	Water Source	:	Authorized Tanker	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Ajay Riverat3.30 Km. S Punasi Damat 1.20Km. SW	

18	Nearest Habitation	:	Naridumri ~~0.03 km~~ SE direction from the mine site.	
19	Nearest Rail Station	:	Jasidih Railway Station 10.46 km W direction from the mine site.	
20	Nearest Airport	:	Deoghar Airport, Ranchi 17.57 km SEfrom the mine site.	
21	Nearest Forest	:	Nawadih PF Baghmari PF	– 0.723 Km SE – 3.465 Km SW
22	Road & Highways	:	NH-333 – 2.80 Km (NE)	

CO-ORDINATES

1	Latitude	:	From 24°30'20.15" N	To 24°30'27.04" N
2	Longitude	:	From 86°32'24.98" E	To 86°32'31.91" E

LAND DETAILS

Khata no.	Plot no.
04	77 (P)
6	43 (P) & 76

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 132/M, dated 08.02.2024.
2	CO	:	The CO, Deoghar vide letter no. 709/Ra., dated 19.05.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 561/M, dated 04.07.2024 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1668, dated 03.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 903, dated 23.05.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 63, Sl. No. 13).
7	Gram Sabha	:	BDO, Deoghar vide letter no. 891/Vi., dated 04.07.2023 informed

			that Gram Sabha conducted on 20.06.2023.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Letter No. 44/DDM, dated 24.04.2024.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty through e-mail dated 08.05.2025 affirmed that the mine plan has been prepared by him.

WORKING DETAILS

1	Mining Method	:	Opencast Semi-Mechanized Mining	
2	Quarry Area	:	1.85ha (Plan Period)	Life of Mine – 1.85ha
3	Waste Generation	:	22341 cum (tons in the plan period)	Life of Mine –22341 cum (tons in plan period)
4	Stripping Ratio	:	1:0.016 (T:m3)	
5	Working Days	:	300 days/year	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine (Maximum)	:	In 271mAMSL	
8	Elevation of Mine (Minimum)		In 262m AMSL	
9	Ultimate Working Depth	:	In 234 mAMSL	
10	Water Table	:	210 (pre Monsoon) – 222 (post monsoon) m AMSL	
11	Topography of Mine	:	Gently and Undulating	
12	Explosive Requirement	:	Slurry – 112 kg/day	
13	Diesel/Fuel requirement	:	Diesel - 32 liter/day	

PRODUCTION DETAILS

Year	Production of Stone in Tonnes per Annum	Production of Stone in cum per Annum	Waste removable in cum for 5 years
1st	344679	127659	22341
2nd	294400	109037	0
3rd	236350	87537	0
4th	178241	66015	0
5th	121119	44859	0
Total	**11,74,789**	**4,35,107**	**22341**

LAND USE

Type of land use	Existing in ha	During Plan Period in ha.	During Conceptual Period in ha	Usage
Quarry	Nil	1.858	1.85	Converted to Reservoir
Mining Road	Nil	0.016	0.00	
Garland Drain	Nil	0.020	0.02	
Settling Tank	Nil	0.008	0.008	
Greenbelt/Safety Zone	Nil	0.542	0.54	Plantation
Area unused	2.44	00	00	-
Total	**2.44**	**2.44**	**2.44**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.54 Ha	1350
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0.17 Km	113Tree both side approach road.

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

- Waste Generation will be 22341Cu.M. during the life of Mine. It shall be used for approach road development.

Water Pollution Control Measures:

- Negligible impact envisaged on surface water and ground water due to mining as no discharge of effluent or intersection of ground water.

- No major surface water body within 1 km radius of the project site.
- Garland drain & settling tank will be constructed around dump for arresting run-off, it will be integral part of rainwater harvesting system.
- Post-project the quarry area will serve as reservoir, which will be source of water for the nearby areas.

Air and Noise Pollution Control Measures:

- Water sprinkling shall be done on the haul roads.
- Plantation to be done in the safety zone develop a green belt along the ML boundary.
- Sharp drill will be used and wet drilling will be followed.
- Controlled blasting- Nonel technology will be used.
- Overloading will be prohibited while transporting. Water sprinkling will be taken up.
- Plantation along transportation route will be done.
- Regular monitoring of Air quality & PUC for vehicle will be carried out.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	3,68,000	1,80,000
2	Plantation	2,00,000	90,000
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (4 point) -Rs.60,000 • Water Quality (2 point) -Rs.18,000 • Noise 24 hrs (4 point) -Rs.12,000 **Total -Rs. 90,000**	--	90,000
Total		**Rs 5,68,000**	**Rs 3,60,00**

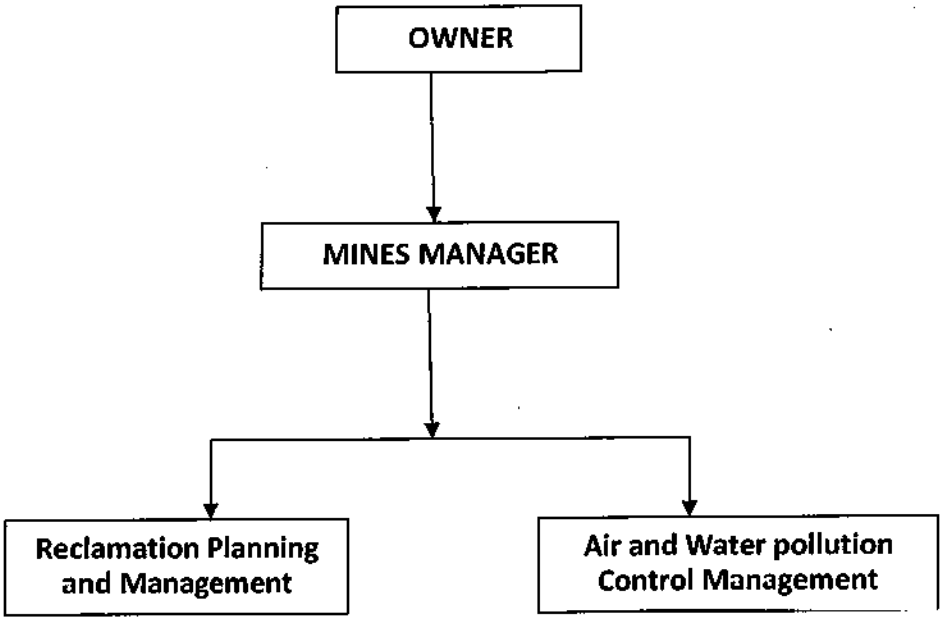
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	4 stations	Quarterly
2.	Water	2 stations	6 Monthly
3.	Noise	4 stations	Quarterly

Solid Waste Management

22341 cum. O.B. will be used in approach road development.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed

- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement

- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

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- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
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f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Naridumri Stone Mine of M/s Mahalaxmi Minerals (Partner : Smt. Ragini Kumari & Shri Gendhari Yadav), Village : Naridumri, Tehsil : Madhupur, Distt. : Deoghar, Jharkhand (2.44 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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2. **Ulatu Alias Semra Tand Brick Soil Mining of M/s Veena Enterprises (Prop. : Shri Bholanath Yadav), Village : Ulatu Alias Semra Tand, Tehsil : Tandwa, Distt. : Chatra, Jharkhand (0.79 Ha).**

(Proposal no.: SIA/JH/MIN/ 533232 /2025)

Name of the consultant : Visiontek Consultancy Services Pvt. Ltd., Bhubaneswar.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for : Soil 1200 m^3/yr.

PROJECT and LOCATION Details:

Sl.	Parameter		Details	
1	Project Name	:	Ulatu alias Semra Tand Brick Clay (Earth) Mining	
2	Lessee:	:	M/s Veena Enterprises Proprietor- Shri Bholanath Yadav	
3	Lease Address	:	Bargoan, P.O.– Bargoan, P.S.– Tandwa, District– Chatra, State – Jharkhand	
4	Lease Area	:	Ha:0.79	Acres:1.96
5	Type of Land	:	Non-Forest – Rayati Land	
6	Project Cost	:	Rs. 13.58 Lakhs	
7	EMP Budget	:	Capital: Rs. 2.75Lakhs	Recurring: Rs. 1.70Lakhs/ year Monitoring cost: Rs. 0.60 Lakhs/year
8	CSR / CER Budget	:	Rs. 0.67 Lakhs	
9	New or Expansion	:	New	
10	Mineable Reserves	:	Cu.M.: 12514	
11	Mine Life	:	10 Years(5 years Plan Period + 5 Year next balance reserve)	
12	Manpower	:	10 Person	
13	Water Requirement	:	1.06KLD (Drinking:0.15KLD, Dust Suppression: 0.3 KLD& Plantation:0.61KLD)	
14	Water Source	:	Supplied through authorizedtankers	
15	DG Set / power	:	Not Applicable	
16	Crusher	:	Not Applicable	
17	Nearest Water Body	:	Haharo Nadi- 2.21 Km SW	
18	Nearest Habitation	:	Bargaon1.10 km NW direction from the mine site.	
19	Nearest Rail Station	:	MccluskieGanj Railway Station -12.00 Km (S)	
20	Nearest Airport	:	Birsa Munda Airport – 60.79 Km SE	
21	Nearest Forest	:	Bhageya PF – 0.77 Km W Banpur PF – 1.80 Km SE	

			Tandwa Hill Forest – 1.79 Km NE
22	Road & Highways	:	Village Road- 0.54 Km W Khelari – Balumath Road -3.97 Km SW

CO-ORDINATES

1	Latitude	:	From 23°45'38.12" N	To 23°45'41.59" N
2	Longitude	:	From84°56'51.45" E	To84°56'55.65" E

LAND DETAILS

Khata No.	Plot No.	Area in Acre
13	399	0.87
	401	0.73
	402	0.36
Total		**1.96**

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Land agreement made.
2	CO	:	The CO, Tandwa vide letter no. 136, dated 02.02.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Chatra vide memo no. 385/Khanan, dated 24.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 241, dated 08.02.2021 certified that the proposed project site is outside Eco Sensitive Zone of Lawalong Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Chatra South Forest Division vide letter no. 210, dated 17.01.2019 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Chatra District (Page no. 59, Sl. No. 24).
7	Gram Sabha	:	Gram Sabha conducted on 11.01.2019.
8	Mine Plan	:	Approved by DMO, Chatra vide Letter No. 150/Khanan, dated

	Approval		30.01.2025.
9	Qualified Person	:	Md. Tauseef Warsi vide letter dated 08.05.2025 affirmed that the mine plan has been prepared by him.

WORKING DETAILS

1	Mining Method	:	Opencast Manual Mining	
2	Quarry Area	:	5 years–0.340 ha	Life of Mine – 0.340ha
3	Waste Generation	:	5 years–Nil	Life of Mine –Nil
4	Stripping Ratio	:	NA	
5	Working Days	:	200 days/year	
6	Benches: size & No	:	1m x 1m; 2 Nos.	
7	Elevation of Mine	:	In 462– 457 AMSL	
8	Ground Level Elevation		In 462– 457 AMSL	
9	Ultimate Working Depth	:	In 460 - 455AMSL	
10	Water Table	:	In 425 - 435AMSL	
11	Topography of Mine	:	Flat area with gentle slope	
12	Explosive Requirement	:	Not applicable	
13	Diesel/Fuel requirement	:	Not applicable due to manual mining	

PRODUCTION DETAILS

Year	Production Bricks Clay in cum per Annum	Topsoil removable in cum for 5 years
1st	1200	137
2nd	1200	137
3rd	1200	137
4th	1200	137
5th	1200	137
Total	**6000**	**685**

LAND USE

Category	Existing (Acres)	Current Plan Period (Acres)	Current Plan Period (Ha.)	Land to be used in remaining period of the Life of the Mine (Acres)	Land used at the Conceptual Plan (Acres.)	Usage
Quarry Area	0.000	0.850	0.343	0.94	1.790	Used in Mining

						Purpose
Topsoil storage, Road/ Infrastr. /etc.	0.000	0.100	0.040	0.000	0.000	Recovered
Berm Area& Plantation	0.000	0.170	0.068	0.000	0.170	Use in Plantation
Unutilized Area	1.96	0.84	0.339	0.000	0.19	Undisturbed
Total Area	1.96	1.96	0.79	0.94	1.96	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	Location		Area/Length	No of saplings
1	Safety Zone	:	0.068Ha	170
2	Other Reclaimed Area	:	0.000	000
3	Haul /Approach Road	:	0.10 Km	67Tree on both side approach road.

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

- Topsoil Generation will be 685Cu.M. during the life of Mine. Topsoil storage area is 0.02ha. The topsoil shall be used for backfilling progressively duringthe life of mine of the mining operation.

Water Pollution Control Measures:

- Mining operation will be restricted to a depth of 2m from the surface level.
- Water quality of the dug well will be monitored, in order to ensure the quality of water is not affected.

Air and Noise Pollution Control Measures:

- Dust suppression measures like spraying / sprinkling of water to keep the surface wet.

- Overloading of the truck/tractor trolleys will not be done.

As the only impact is due to the transportation of soil through village roads, emphasis will be given on the following points:

- Carts will be developed on village roads.
- Carts-trolleys will be well maintained.
- Minimum use of horns in the village area and silence zone (if any) as applicable.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	1,00,000	50,000
2	Plantation	1,00,000	55,000
3	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (4 point) -Rs.24,000 • Noise 24 hrs (3 point) -Rs.16,000 • Water (4 point) -Rs. 20,000 **Total -Rs. 60,000**	--	60,000
Total		**Rs 2,00,000**	**Rs 1,65,000**

Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	4 stations	6 Monthly
2.	Water	4 stations	6 Monthly
3.	Noise	4 stations	6 Monthly

Water Quality Management

a. Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.

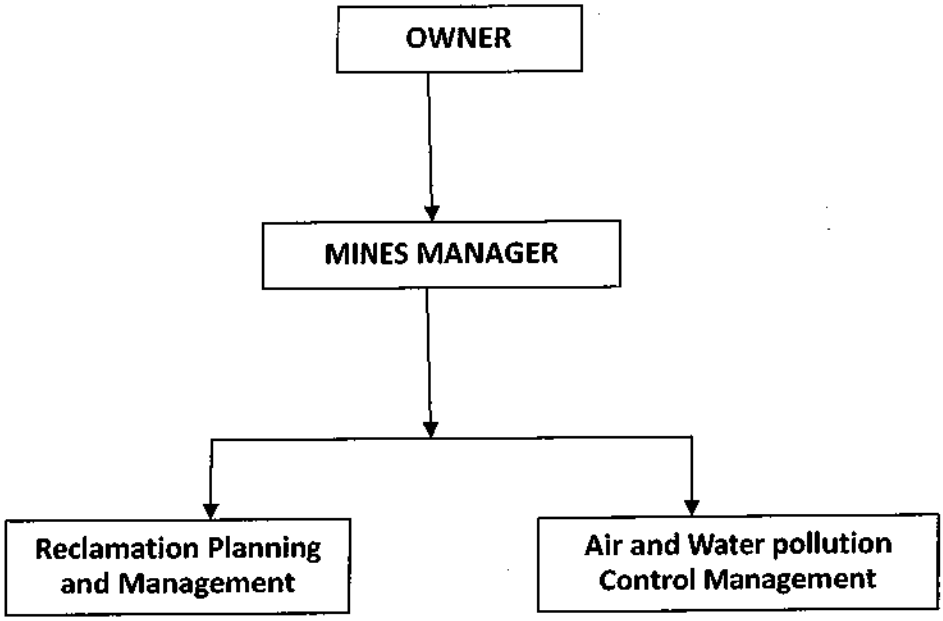
Air Quality Management

Water Sprinkling will be done

Mitigation measures:

- ✓ Regular water sprinkling on Haul road by using water Tankers.
- ✓ Regular repair of Haul road

Organization Structure



Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Ulatu Alias Semra Tand Brick Soil Mining of M/s Veena Enterprises (Prop. : Shri Bholanath Yadav), Village : Ulatu Alias Semra Tand, Tehsil : Tandwa, Distt. : Chatra, Jharkhand (0.79 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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3. **Bisuwani Stone Mine of M/s S. S. Mining (Partners : Shri Ravi Sankhar Kumar & Shri Sunil Kumar Jha), Village : Bisuwani, Thana : Rikhiya, Thana no. : 433, Distt. : Deoghar, Jharkhand (1.821 Ha).**

(Proposal no.: SIA/JH/MIN/ 533793 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity:75152 Cum. (Max.) / 217941 TPA (Max)

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	BisuwaniStone MineDeposit	
2	Lessee:	:	**S.S. Mining** Partner 1. Ravi Shankar Kumar, S/O Upendra Prasad Singh Partner 2. Sunil Kumar Jha S/O Late Tarani Jha	
3	Lessee Address	:	(1) Ravi Shankar Kumar, S/O Upendra Prasad Singh Williams Town, Thana+Dist – Deoghar, Jharkhand (2) Sunil Kumar Jha S/O Late Tarani Jha Near Hanuman Mandir Punsia, Balsara, Thana – Rikhiya, Dist- Deoghar, Jharkhand	
4	Lease Area	:	1.821Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 130.14 Lakhs	Recurring Cost: Rs. 17.12 Lakhs
7	EMP Budget	:	Capital Cost: Rs 6.468 Lakhs	Recurring Cost: Rs. 5.579 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	CUM.: 344284	Tonnes: 998424
10	Mine Life	:	05 years.	
11	Man power	:	32Person	
12	Water Requirement	:	4.581 KLD (Drinking: 0.0.480 KLD, Dust Suppression: 1.08 KLD, Plantation: 3.021 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Ajay River – 4.61 km North-East direction	
17	Nearest Habitation	:	Bansjora Village ~~– 0.48 Km~~ in NW Direction	

18	Nearest Rail Station	:	7.05 km (aerial distance) SW from nearest railway station Deoghar Junction, Jharkhand
19	Nearest Air Port	:	Nearest Airport Deoghar is about 13.70 km (aerial distance) SW direction away from applied area
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Deogarh. letter no.-1048 Dated- 21/06/23
21	Road & Highways	:	A motorable road (Bisuwani – Semra) is well connected to applied lease area from 0.27 km (aerial distance) SW direction

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 33' 58.02442252" N	086° 43' 41.43276852" E
2	24° 33' 57.59104689" N	086° 43' 42.60657764" E
3	24° 33' 57.15766870" N	086° 43' 43.78038455" E
4	24° 33' 56.70621591" N	086° 43' 45.00313682" E
5	24° 33' 56.29090461" N	086° 43' 46.12799170" E
6	24° 33' 55.42470751" N	086° 43' 45.60597180" E
7	24° 33' 54.55850988" N	086° 43' 45.08395387" E
8	24° 33' 53.51745371" N	086° 43' 44.45655968" E
9	24° 33' 52.37889221" N	086° 43' 43.77040753" E
10	24° 33' 52.83053082" N	086° 43' 42.68620591" E
11	24° 33' 53.28216723" N	086° 43' 41.60200215" E
12	24° 33' 53.70428702" N	086° 43' 40.58864966" E
13	24° 33' 54.06365576" N	086° 43' 39.72593396" E
14	24° 33' 54.59935483" N	086° 43' 39.90523569" E
15	24° 33' 55.06306098" N	086° 43' 40.07395378" E
16	24° 33' 55.55343716" N	086° 43' 40.29948134" E
17	24° 33' 55.90143690" N	086° 43' 40.41422407" E
18	24° 33' 56.70550577" N	086° 43' 40.57023651" E
19	24° 33' 56.94854088" N	086° 43' 40.75287729" E
20	24° 33' 57.33892928" N	086° 43' 41.08545236" E
21	24° 33' 57.79146143" N	086° 43' 41.32283262" E

LAND DETAILS

Khata no.	Plot no.
09	746 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 486/M, dated 10.06.2024.
2	CO	:	The CO, Mohanpur vide letter no. 757/Ra., dated 28.06.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 411/M, dated 12.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1264, dated 03.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1048, dated 21.06.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 63, Sl. No. 16).
7	Gram Sabha	:	BDO, Mohanpur vide letter no. 859/Vi., dated 26.06.2023 informed that Gram Sabha conducted on 17.06.2023.
8	Mine Plan Approval	:	Approved by Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 92, dated 27.06.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.246Ha.	Life of Mine – 05year
3	Waste Generation	:	29036cum	
4	Stripping Ratio	:	1:0.13	
5	Working Days	:	300	

6	Benches: size	:	6 m x 6 m
7	Elevation of Mine	:	234m–222 m AMSL
8	Ground Level Elevation	:	222 AMSL
9	Ultimate Working Depth	:	184 m AMSL
10	Water Table	:	169m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	64 kg Power Gel Cartridge or slurry. will be obtain from licenced Vendors
13	Diesel/Fuel requirement	:	HSD –314.88 liters / day (944.64KL/year)

Production Details

Year	Production of Stone / Year		Removal of O.B.
	Cum	Tonnes	Cum
1st	74054	214757	29036
2nd	75152	217941	0
3rd	66368	192467	0
4th	57584	166994	0
5th	71004	205912	0
Total	**344162**	**998070**	**29036**

Land Use pattern

Si. No	Pattern of Utilization	Present/Existing land use pattern (ha)	Proposed Land use for current plan period (ha)	Land used at the conceptual stage i.e. end of mine life (ha)	Area to be converted in the conceptual period
1	Mining Activities	0	1.246	1.246	Water body
2	Offices/Store etc.	0	0.011	0.011	Plantation
3	Dumping	0	0.090	0.090	-
4	Mining Road	0	0.020	0.020	Water body
5	Garland Drain	0	0.020	0.020	-
6	Settling Tank	0	0.010	0.010	-
7	Green belt/Safety Zone	0	0.404	0.404	Green Belt
8	Stone Stock yards	0	0.000	0.000	-
9	Unutilized	1.821	0.020	0.020	Plantation
	Total	**1.821**	**1.821**	**1.821**	-

ENVIRONMENT MANAGEMENT
Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone/ Dumping/ Offices/ Store etc.	0.435 Ha	696
2	Along Approach Road	270 m	360
TOTAL			**1,056**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **Budget for Environmental Management**

Sl. No.	**Particulars**	**Capital Cost in Rs.**	**Recurring Cost in Rs. per year**
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	1,00,000	
3	Plantation 360 X 800 = Rs 2,88,000(Gabion Plantation along approach road) 696 X 400 = Rs 2,78,400 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	5,46,800	54,680
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total- Rs. 1,01,610** **(Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**Rs 6,66,400**	**Rs 5,57,900**

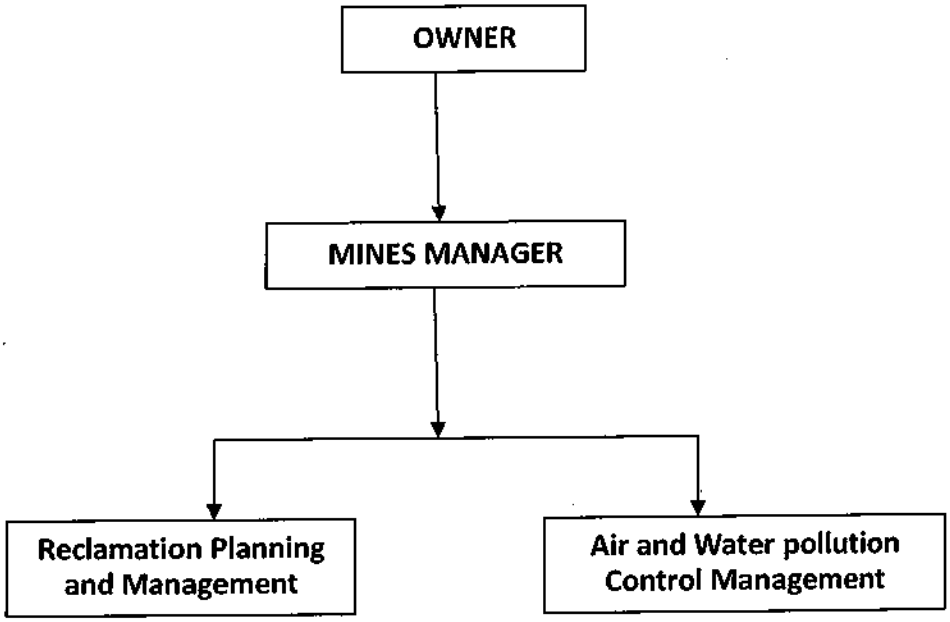
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

29036 cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.

- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident,	Remote	Minor	16

		Exposure to Dust			

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench

- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people

become aware of the blasting activities being undertaken in the area and take appropriate precautions.

- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure

- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.

e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bisuwani Stone Mine of M/s S. S. Mining (Partners : Shri Ravi Sankhar Kumar & Shri Sunil Kumar Jha), Village : Bisuwani, Thana : Rikhiya, Thana no. : 433, Distt. : Deoghar, Jharkhand (1.821 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged

photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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4. **Kulkulidangal Stone Mine of Shri Sanjiv Kumar Roy & Shri Dhritisundar Jana, Village : Kulkulidangal, Thana : Shikaripara, Distt. : Dumka, Jharkhand (2.638 Ha).**

(Proposal no.: SIA/JH/MIN/ 531861 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity:27,577 CUM / 74,457 TPA.

Project and Location Details:

Sl. No.	Parameter		Details
1	Project Name	:	Kulkulidangal Stone Mine
2	Lessee:	:	Shri Sanjiv Kumar Roy & Shri Dhritisundar Jana
3	Lessee Address	:	Partner 1. Shri Sanjiv Kumar Roy S/o Kali Charan Roy, Vill-Dankothi, PO- Tangdaha, PS- Raneswar, Dist- Dumka. Partner 2. Shri Dhritisundar Jana S/o Shri Ram Krishna Jana, Vill+PO- Ramganga, PS- Patthar Pratima, Dist- South 24 Pargana, West Bengal, 743371.
4	Lease Area	:	2.638Ha

5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 133.485 Lakhs	Recurring Cost: Rs. 5.13 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 9.82 Lakhs	Recurring Cost: Rs. 5.3142 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 2,38,769	Tonnes:6,44,677
10	Mine Life	:	09 years.	
11	Man power	:	18Person	
12	Water Requirement	:	7.425 KLD (Drinking: 0.27 KLD, Dust Suppression: 1.8 KLD, Plantation: 5.355 KLD	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Dwarka River – 4.65 km – SW direction.	
17	Nearest Habitation	:	KulkulidangalVillage ~~– 0.3 Km~~ in NW Direction	
18	Nearest Rail Station	:	Pinagaria Railway Station is at areal distance of 11.60 km NE direction.	
19	Nearest Air Port	:	Deoghar Airport is at areal distance of 95 km NW direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Dumka. letter no.-2211 Dated- 30/09/2024	
21	Road & Highways	:	NH–14 (Panagarh-Morgram State Highway) is at areal distance of 8.91 km SE direction.	

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 07' 21.77383762" N	087° 34' 58.32669464" E
2	24° 07' 21.67297998" N	087° 34' 59.22353155" E
3	24° 07' 21.91201949" N	087° 34' 59.26134258" E
4	24° 07' 21.96163639" N	087° 34' 59.46066586" E
5	24° 07' 21.61605796" N	087° 34' 59.57701244" E
6	24° 07' 21.23516267" N	087° 34' 59.75056177" E
7	24° 07' 20.97369175" N	087° 35' 00.17628450" E
8	24° 07' 20.91297357" N	087° 35' 00.39016429" E
9	24° 07' 20.88350511" N	087° 35' 00.67557076" E
10	24° 07' 20.74412769" N	087° 35' 00.78197537" E
11	24° 07' 20.72997217" N	087° 35' 01.03775501" E

12	24° 07' 20.69818578" N	087° 35' 01.39842506" E
13	24° 07' 20.61668123" N	087° 35' 01.63117437" E
14	24° 07' 20.45489068" N	087° 35' 01.87263925" E
15	24° 07' 20.44515387" N	087° 35' 02.12435450" E
16	24° 07' 19.98370305" N	087° 35' 01.94698493" E
17	24° 07' 19.98350641" N	087° 35' 01.23313521" E
18	24° 07' 19.86737444" N	087° 35' 01.16045869" E
19	24° 07' 19.86588442" N	087° 35' 01.06051312" E
20	24° 07' 19.83066743" N	087° 35' 00.47907665" E
21	24° 07' 19.44078407" N	087° 35' 00.24637034" E
22	24° 07' 19.07363136" N	087° 35' 00.41549962" E
23	24° 07' 18.18358386" N	087° 35' 01.18833020" E
24	24° 07' 17.29353530" N	087° 35' 01.96115781" E
25	24° 07' 16.31032902" N	087° 35' 02.81486961" E
26	24° 07' 15.31592568" N	087° 35' 03.67829893" E
27	24° 07' 14.48595982" N	087° 35' 04.39894533" E
28	24° 07' 14.25713591" N	087° 35' 04.21625478" E
29	24° 07' 13.92247243" N	087° 35' 04.47846808" E
30	24° 07' 13.63083229" N	087° 35' 04.25725527" E
31	24° 07' 13.71622504" N	087° 35' 04.10786442" E
32	24° 07' 13.25322751" N	087° 35' 03.57038261" E
33	24° 07' 13.03754687" N	087° 35' 03.37182303" E
34	24° 07' 12.71073533" N	087° 35' 03.16957231" E
35	24° 07' 12.61559348" N	087° 35' 02.80903487" E
36	24° 07' 12.51639344" N	087° 35' 02.74484909" E
37	24° 07' 12.52024427" N	087° 35' 02.50267177" E
38	24° 07' 12.28155453" N	087° 35' 02.20203188" E
39	24° 07' 12.44056654" N	087° 35' 01.92231743" E
40	24° 07' 12.53093133" N	087° 35' 02.00239679" E
41	24° 07' 12.74885364" N	087° 35' 01.61459904" E
42	24° 07' 12.96034158" N	087° 35' 01.37973702" E
43	24° 07' 13.12400951" N	087° 35' 01.41234723" E
44	24° 07' 13.22446393" N	087° 35' 01.14830030" E
45	24° 07' 13.35012144" N	087° 35' 01.17755126" E
46	24° 07' 13.43040639" N	087° 35' 00.83374317" E
47	24° 07' 14.51718770" N	087° 35' 01.14201419" E
48	24° 07' 14.99028042" N	087° 35' 01.11926326" E
49	24° 07' 15.26665049" N	087° 35' 00.55286936" E

50	24° 07' 15.78130777" N	087° 34' 59.81825646" E
51	24° 07' 15.36598684" N	087° 34' 59.67197222" E
52	24° 07' 14.93429607" N	087° 34' 59.63006151" E
53	24° 07' 14.37838594" N	087° 34' 57.39691010" E
54	24° 07' 14.40275522" N	087° 34' 56.99867204" E
55	24° 07' 14.37298626" N	087° 34' 56.41595277" E
56	24° 07' 14.39063219" N	087° 34' 56.00692882" E
57	24° 07' 14.65392644" N	087° 34' 55.99218621" E
58	24° 07' 14.64636652" N	087° 34' 55.67347310" E
59	24° 07' 15.00681119" N	087° 34' 55.49345665" E
60	24° 07' 15.24881806" N	087° 34' 55.69213258" E
61	24° 07' 15.44986519" N	087° 34' 55.65400390" E
62	24° 07' 15.53870360" N	087° 34' 56.32662041" E
63	24° 07' 15.66288607" N	087° 34' 57.31807675" E
64	24° 07' 16.17548040" N	087° 34' 57.36302103" E
65	24° 07' 16.19782143" N	087° 34' 57.64037375" E
66	24° 07' 16.26981126" N	087° 34' 57.93707214" E
67	24° 07' 16.48596804" N	087° 34' 58.01134755" E
68	24° 07' 16.29108191" N	087° 34' 58.49485849" E
69	24° 07' 16.48689866" N	087° 34' 58.53398720" E
70	24° 07' 16.81572447" N	087° 34' 58.97525578" E
71	24° 07' 17.41079334" N	087° 34' 59.39542402" E
72	24° 07' 17.80150604" N	087° 34' 59.76268213" E
73	24° 07' 17.91175701" N	087° 34' 59.61380013" E
74	24° 07' 18.48726123" N	087° 34' 59.82440419" E
75	24° 07' 18.88549113" N	087° 34' 58.48111737" E
76	24° 07' 18.94767820" N	087° 34' 58.28919978" E
77	24° 07' 19.19771001" N	087° 34' 57.89672801" E
78	24° 07' 19.64524164" N	087° 34' 58.05523049" E
79	24° 07' 20.12227590" N	087° 34' 58.13489482" E
80	24° 07' 20.77355860" N	087° 34' 58.17251764" E
81	24° 07' 20.81712550" N	087° 34' 58.03810323" E
82	24° 07' 21.16232832" N	087° 34' 58.09487075" E

LAND DETAILS

Khata no.	Plot no.
40	454 (P), 457 & 533 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 321/M, dated 08.02.2025.
2	CO	:	The CO, Shikaripara vide letter no. 1130/Ra., dated 24.12.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 438/M, dated 25.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2268, dated 01.11.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 2211, dated 30.09.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has been certified vide memo no. 550/M, dated 27.03.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 318, Sl. No. 76).
7	Gram Sabha	:	Gram Sabha conducted on 27.09.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 509/M, dated 12.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.7798Ha	Life of Mine – 09year
3	Waste Generation	:	13805 cum (During plan period)	
4	Stripping Ratio	:	01:0.04	
5	Working Days	:	300	
6	Benches: size	:	5 m x 5 m	
7	Elevation of Mine	:	(94 m to 92m) AMSL	
8	Ground Level Elevation	:	92m AMSL	
9	Ultimate Working Depth	:	66 m AMSL	

10	Water Table	:	51m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	26.73 kg/day nitro mix explosives (Will be obtained from Licenced Vendors).
13	Diesel/Fuel requirement	:	HSD – 245.91 Liters / day (73.773 KL/year).

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable (95%)	T.F.	Tonnes	Cum
1st	27577	2.7	74457	9687
2nd	24849	2.7	67093	4118
3rd	27334	2.7	73803	0
4th	23692	2.7	63969	0
5th	18102	2.7	48876	0
Total	**121554**		**328197**	**13805**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Proposed Land use for current plan period (Ha)	Land to be used in remaining period of the life of the mine. (Ha)	Land used at the conceptual stage i.e. end of mine life in (Ha)	Area to be converted in the conceptual period.
1	Mining Activities	0	1.059	0.7208	1.7798	Water body
2	Dumping	0	0.0548	0	0	-
3	Mining Road	0	0	0	0	Water body
4	Garland drain	0	0.058	0	0	-
5	Settling Tank	0	0.005	0	0.005	-
6	Safety Zone	0	0.795	0	0.853	Plantation
7	Unutilized	2.638	0.666	0	0	-
Total		**2.638**	**2.638**	**0.7208**	**2.638**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone/ Dumping/		0.853 Ha	1365

	Offices/ Store etc.			
2	Along Approach Road		315m	420
TOTAL				**1785**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost In Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	1,00,000	
3	Plantation 420 X 800 = Rs 3,36,000 (Gabion Plantation along approach road) 1365 X 400 = 5,46,000 (Plantation within lease area) (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	8,82,000	88,200
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** *Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022*	--	2,03,220
Total		**Rs 9,82,000**	**Rs 5,31,420**

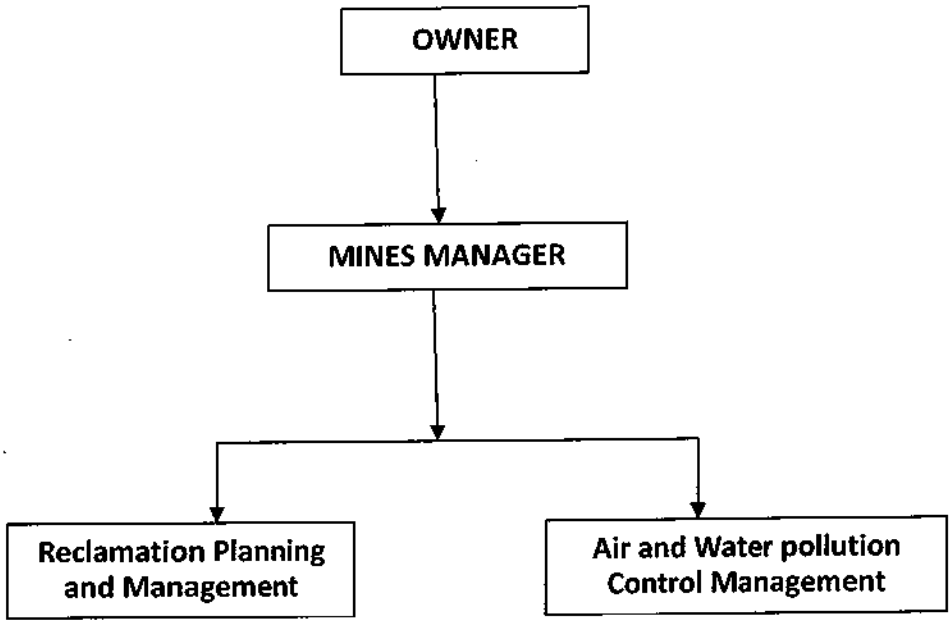
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

34361 cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.

- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material,	Very Unlikely	Minor	20

		Exposure to Dust			
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.

- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.

c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kulkulidangal Stone Mine of Shri Sanjiv Kumar Roy & Shri Dhritisundar Jana, Village : Kulkulidangal, Thana : Shikaripara, Distt. : Dumka, Jharkhand (2.638 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

5. Dhawadangal Stone Mine of M/s Universal Black Stone Works (Director : Md. Asad Ali), Village : Dhawadangal, Thana : Shikaripara, Distt. : Dumka, Jharkhand (1.893 Ha).

(Proposal no.: SIA/JH/MIN/ 531981 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity:42125 Cum. (Max.) / 113737 TPA

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Dhawadangal Stone Mine
2	Lessee:	:	Dir. Md. Asad Ali
3	Lessee Address	:	M/s Universal Black Stone Works. Md. Asad Ali, S/o Md. Maksud Ali, R/o Vill+PO- Pinergaria, Thana- Shikaripara, Dist- Dumka, 816103 State- Jharkhand.

4	Lease Area	:	1.893Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 145.64 Lakhs	
7	EMP Budget	:	Capital Cost: Rs 8.72Lakhs	Recurring Cost: Rs. 5.80 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 190705	Tonnes: 514903
10	Mine Life	:	05 years.	
11	Man power	:	19Person	
12	Water Requirement	:	6.07 KLD (Drinking: 0.28 KLD, Dust Suppression: 1.1 KLD, Plantation: 4.7 KLD	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Brahmani River flowing East to West at 3.63 km North Direction from the Mine site.	
17	Nearest Habitation	:	PinergariaVillage – 1.09 Km in SE Direction	
18	Nearest Rail Station	:	Pinergaria Railway Station at aerial distance of 1.5 km at North West direction.	
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 99 km at North West direction.	
20	Nearest Forest	:	More than 250 m from the lease area, as per Division Forest Officer, Dumka. letter no.-2334 Dated- 22/10/24	
21	Road & Highways	:	Approach Road is 274m starts from SW side of the lease area, after that, this road connects to village road.	

CO-ORDINATES

Sl. No.	Latitude	Longitude
1	24° 12' 10.97397901" N	087° 39' 22.01792308" E
2	24° 12' 10.04633891" N	087° 39' 21.80551543" E
3	24° 12' 09.11869693" N	087° 39' 21.59310779" E
4	24° 12' 09.03703373" N	087° 39' 21.86916778" E
5	24° 12' 08.11832164" N	087° 39' 21.70129346" E
6	24° 12' 07.97541071" N	087° 39' 21.54834131" E
7	24° 12' 08.22720613" N	087° 39' 20.17923298" E
8	24° 12' 08.38032490" N	087° 39' 19.33613084" E
9	24° 12' 08.42115657" N	087° 39' 19.01903491" E
10	24° 12' 08.10471108" N	087° 39' 18.91084924" E
11	24° 12' 08.33949324" N	087° 39' 17.91852549" E
12	24° 12' 07.99242392" N	087° 39' 18.01178900" E

13	24° 12' 07.70957924" N	087° 39' 17.79774924" E
14	24° 12' 06.68052503" N	087° 39' 17.68269789" E
15	24° 12' 06.76232186" N	087° 39' 17.19113382" E
16	24° 12' 07.10773622" N	087° 39' 17.23210606" E
17	24° 12' 08.43816976" N	087° 39' 17.47086064" E
18	24° 12' 08.43476712" N	087° 39' 17.09407606" E
19	24° 12' 08.24081669" N	087° 39' 16.50092014" E
20	24° 12' 08.20338765" N	087° 39' 15.88165043" E
21	24° 12' 07.50244325" N	087° 39' 15.92641691" E
22	24° 12' 06.57692279" N	087° 39' 15.96372232" E
23	24° 12' 05.71605098" N	087° 39' 15.96372232" E
24	24° 12' 05.67999161" N	087° 39' 15.48983836" E
25	24° 12' 06.66032140" N	087° 39' 15.40829832" E
26	24° 12' 07.42565212" N	087° 39' 15.34464095" E
27	24° 12' 08.19098156" N	087° 39' 15.28098359" E
28	24° 12' 08.09757489" N	087° 39' 14.20048872" E
29	24° 12' 08.21465890" N	087° 39' 14.15464338" E
30	24° 12' 08.71973800" N	087° 39' 14.37614422" E
31	24° 12' 09.23544977" N	087° 39' 14.17795926" E
32	24° 12' 09.85030619" N	087° 39' 14.25471434" E
33	24° 12' 10.12504647" N	087° 39' 16.67157218" E
34	24° 12' 10.39978660" N	087° 39' 16.88843002" E
35	24° 12' 11.46531320" N	087° 39' 17.31226539" E
36	24° 12' 12.53083732" N	087° 39' 17.73610077" E
37	24° 12' 12.28627480" N	087° 39' 18.73285453" E
38	24° 12' 11.29829108" N	087° 39' 18.38064618" E
39	24° 12' 11.09626064" N	087° 39' 19.24916262" E
40	24° 12' 10.05420748" N	087° 39' 19.06263560" E
41	24° 12' 09.94214469" N	087° 39' 20.08049863" E
42	24° 12' 11.37558206" N	087° 39' 20.27927514" E
43	24° 12' 11.17478058" N	087° 39' 21.14859911" E

LAND DETAILS

Khata no.	Plot no.
9, 25, 28, 32, 33, 38, 44, 51 & 226	243/P, 246/P, 251, 252, 254/P, 260/P, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 288/P & 289

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 443/M, dated 27.02.2025.

2	CO	:	The CO, Shikaripara vide letter no. 126/Ra., dated 19.02.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 515/M, dated 12.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2220, dated 18.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 2334, dated 22.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has been certified vide memo no. 558/M, dated 27.03.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 188).
7	Gram Sabha	:	Gram Sabha conducted on 17.09.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 519/M, dated 18.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Mechanized Method	
2	Quarry Area	:	1.138Ha	Life of Mine – 05year
3	Waste Generation	:	35586cum	
4	Stripping Ratio	:	01:0.07	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	70m–69m AMSL	
8	Ground Level Elevation	:	70 AMSL	
9	Ultimate Working Depth	:	44 m AMSL	
10	Water Table	:	Collar Height- 29.94 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive	:	42.768 kg Nitro mix explosives will be obtained from licenced	

	Requirement		Vendors
13	Diesel/Fuel requirement	:	HSD –259.44 Liters / day (778.32 KL/year)

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable 95%	T.F.	Tonnes	Cum
1st	40888	2.7	110398	17474
2nd	40219	2.7	108592	7654
3rd	42125	2.7	113737	4964
4th	34137	2.7	92171	0
5th	33010	2.7	89126	5494
Total	**190379**		**514023**	**35586**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Activities	-	1.138	1.138	Water body
2	Settling Tank	-	0.009	0.009	-
3	Safety Zone	-	0.746	0.746	Plantation
4	Unutilized	1.893	-	-	-
Total		**1.893**	**1.893**	**1.893**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone/ Dumping/ Offices/ Store etc.	0.746 Ha	1193
2	Along Approach Road	274 m	368
TOTAL			**1561**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	1,00,000	
3	Plantation 368 X 800 = Rs 2,94,400(Gabion Plantation along approach road) 1193 X 400 = Rs 4,77,200 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	7,71,600	77160
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) - Rs.12,420 • Noise 24 hrs (3 point) - Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**Rs 871600**	**Rs 580380**

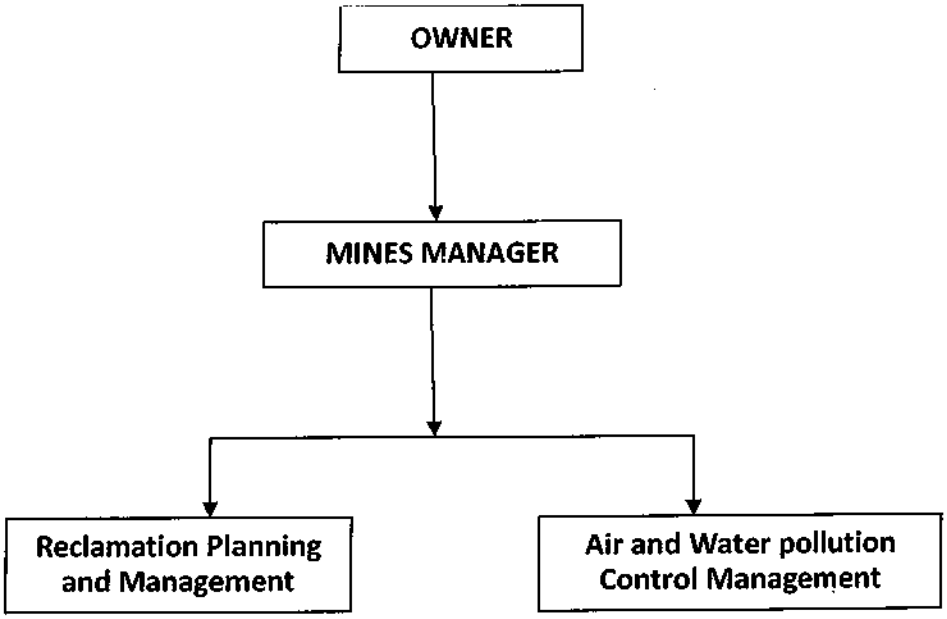
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SL. No.	Description	No. Of Monitoring Stations	Duration
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Solid Waste Management

35586 cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.

- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.

- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)

- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.

e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Dhawadangal Stone Mine of M/s Universal Black Stone Works (Director : Md. Asad Ali), Village : Dhawadangal, Thana : Shikaripara, Distt. : Dumka, Jharkhand (1.893 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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6. **Haripur Stone Mine of Shri Gourachandra Mandal (Partner), Village : Haripur, Thana : Shikaripara, Distt. : Dumka, Jharkhand (1.756 Ha).**

(Proposal no.: SIA/JH/MIN/ 530456 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 49077Cum. / annum or 132508 TPA

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Haripur Stone Mine
2	Lessee:	:	1. Shri Gourchandra Mandal 2. Shri Amit Kumar Gorai
3	Lessee Address	:	Part.1 Gourchandra Mandal S/o Late Anil Chandra Mandal, R/o Vill – Pokhariya, P.O – Mohulipahari, P.S. – Shikaripara, Dist – Dumka, Part.2 Shri Amit Kumar Gorai, S/o Shri Jayanta Gorai, R/o Vill + P.O.- Pattabari, P.S. – Shikaripara, Dist – Dumka.
4	Lease Area	:	1.756 Ha
5	Type of Land	:	Non Forest Raiyati Land

6	Project Cost		Capital Cost: Rs. 200.64 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 8.252 Lakhs	Recurring Cost: Rs. 5.707
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 222189	Tonnes: 599910
10	Mine Life	:	5 years.	
11	Man power	:	31Person	
12	Water Requirement	:	4.98 KLD (Drinking: 0.33 KLD, Dust Suppression: 0.828 KLD, Plantation: 3.822 KLD	
13	Water Source	:	From Nearby villages tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	Brahmani River –5.7 km Northdirection..	
17	Nearest Habitation	:	Haripur Village ~~– 0.21 Km~~ in W Direction	
18	Nearest Rail Station	:	Pakdaha Harinsing Railway Station at areal distance of 2.00 km in East direction	
19	Nearest Air Port	:	Deoghar Airport is at areal distance of 95.2 km NW direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Dumka. letter no.- 2589 Dated- 10.12.2024	
21	Road & Highways	:	The distance of Approach Road is 207m, after that this road connects to MDR Sarasdangal to Shikaripara.	

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 12' 49.34843879" N	087° 37' 31.04900162" E
2	24° 12' 48.56718012" N	087° 37' 21.76760709" E
3	24° 12' 48.36544334" N	087° 37' 21.95426075" E
4	24° 12' 48.31969523" N	087° 37' 31.12017511" E
5	24° 12' 48.01287533" N	087° 37' 21.98254160" E
6	24° 12' 47.71498364" N	087° 37' 21.72047233" E
7	24° 12' 47.43783124" N	087° 37' 31.03113480" E
8	24° 12' 46.66396684" N	087° 37' 21.36260166" E
9	24° 12' 46.67777585" N	087° 37' 21.17387849" E
10	24° 12' 46.32554468" N	087° 37' 20.83784186" E
11	24° 12' 47.40783506" N	087° 37' 19.96425739" E
12	24° 12' 47.49991523" N	087° 37' 20.13989179" E
13	24° 12' 48.447444577"N	087° 37' 19.73915482" E
14	24° 12' 49.23049729" N	087° 37' 19.15769194" E
15	24° 12' 50.09375721" N	087° 37' 18.60317310" E
16	24° 12' 50.19391857" N	087° 37' 18.95872883" E
17	24° 12' 50.36183616" N	087° 37' 19.27099662" E

18	24° 12' 50.41780869" N	087° 37' 19.47426528" E
19	24° 12' 50.34121470" N	087° 37' 19.82188414" E
20	24° 12' 50.24989110" N	087° 37' 20.24609700" E
21	24° 12' 50.42959238" N	087° 37' 20.54658110" E
31	24° 12' 50.77721125" N	087° 37' 20.38750128" E
23	24° 12' 50.97164214" N	087° 37' 20.74984976" E
24	24° 12' 51.12942575" N	087° 37' 21.08321036" E
25	24° 12' 51.58569024" N	087° 37' 21.10394965" E
26	24° 12' 51.71578218" N	087° 37' 20.83056804" E
27	24° 12' 52.02687160" N	087° 37' 20.31585644" E
28	24° 12' 52.46805297" N	087° 37' 19.73892697" E
29	24° 12' 52.68670878" N	087° 37' 18.85883734" E
30	24° 12' 52.70848785" N	087° 37' 18.70479707" E
31	24° 12' 53.36667720" N	087° 37' 18.57575889" E
32	24° 12' 53.24294845" N	087° 37' 18.78491940" E
33	24° 12' 53.24000252" N	087° 37' 18.91453999" E
34	24° 12' 53.34605574" N	087° 37' 19.31091594" E
35	24° 12' 53.33427205" N	087° 37' 19.66280433" E
36	24° 12' 53.26651583" N	087° 37' 19.90436998" E
37	24° 12' 53.45411218" N	087° 37' 20.11034888" E
38	24° 12' 53.23352150" N	087° 37' 20.33471035" E
39	24° 12' 53.17130361" N	087° 37' 20.52324939" E
40	24° 12' 53.11474190" N	087° 37' 20.88901514" E
41	24° 12' 53.32402024" N	087° 37' 20.94369146" E
42	24° 12' 53.41074820" N	087° 37' 21.04361716" E
43	24° 12' 53.42583132" N	087° 37' 21.13034512" E
44	24° 12' 53.35418648" N	087° 37' 21.27363479" E
45	24° 12' 52.84136028" N	087° 37' 21.46405923" E
46	24° 12' 52.80553786" N	087° 37' 21.68087913" E
47	24° 12' 52.73013124" N	087° 37' 21.81851264" E
48	24° 12' 52.39453174" N	087° 37' 31.15599753" E
49	24° 12' 52.31483760" N	087° 37' 21.97688543" E
50	24° 12' 52.05138168" N	087° 37' 31.20501768" E
51	24° 12' 51.97408067" N	087° 37' 31.14279979" E
52	24° 12' 51.81383148" N	087° 37' 31.05795731" E
53	24° 12' 51.72520913" N	087° 37' 21.97877082" E
54	24° 12' 51.46381860" N	087° 37' 31.41429602" E
55	24° 12' 51.08010394" N	087° 37' 31.36964997" E
56	24° 12' 51.07180350" N	087° 37' 31.26110804" E
57	24° 12' 50.90683184" N	087° 37' 31.11381192" E
58	24° 12' 50.71209623" N	087° 37' 31.44966619" E
59	24° 12' 50.30721721" N	087° 37' 31.24636086" E
60	24° 12' 50.20275634" N	087° 37' 31.42313379" E

61	24° 12' 50.23516149" N	087° 37' 31.61756468" E
62	24° 12' 49.97002846" N	087° 37' 23.08596637" E
63	24° 12' 49.76086795" N	087° 37' 23.63112428" E
64	24° 12' 49.41030317" N	087° 37' 24.08758005" E
65	24° 12' 49.12653776" N	087° 37' 24.59109242" E
66	24° 12' 49.17118381" N	087° 37' 24.74675026" E
67	24° 12' 49.17616124" N	087° 37' 24.87850134" E
68	24° 12' 48.86480671" N	087° 37' 25.26820478" E
69	24° 12' 48.40868949" N	087° 37' 25.77264776" E
70	24° 12' 48.31604319" N	087° 37' 25.93188982" E
71	24° 12' 47.93734188" N	087° 37' 25.71078339" E
72	24° 12' 47.64966195" N	087° 37' 25.42130534" E
73	24° 12' 47.41296765" N	087° 37' 25.15400402" E
74	24° 12' 47.41002173" N	087° 37' 25.05089673" E
75	24° 12' 47.13310501" N	087° 37' 24.67381864" E
76	24° 12' 47.11542947" N	087° 37' 24.15828219" E
77	24° 12' 47.00348442" N	087° 37' 24.05312897" E
78	24° 12' 47.32416007" N	087° 37' 23.89031616" E
79	24° 12' 47.64864146" N	087° 37' 23.70166419" E
80	24° 12' 47.89020711" N	087° 37' 23.44242300" E
81	24° 12' 48.01393586" N	087° 37' 23.49250368" E
82	24° 12' 48.13193500" N	087° 37' 23.35404532" E
83	24° 12' 48.37039249" N	087° 37' 23.51901699" E
84	24° 12' 48.68855213" N	087° 37' 23.03588568" E
85	24° 12' 49.01849546" N	087° 37' 31.72361789" E
86	24° 12' 49.30130403" N	087° 37' 31.37894495" E
87	24° 12' 49.31460070" N	087° 37' 31.20608821" E

LAND DETAILS

Khata No.	Plot No.
14	360/P
11	427/P
16	364/P, 362, 363, 365, 1243
18	361/P
21	432
28	355/P

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 435/M, dated 25.02.2025.

2	CO	:	The CO, Shikaripara vide letter no. 98/Ra., dated 08.02.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 516/M, dated 17.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2411, dated 03.12.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 2589, dated 10.12.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has been certified vide memo no. 546/M, dated 26.03.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 318 & Sl. No. 48).
7	Gram Sabha	:	Gram Sabha conducted on 28.10.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 524/M, dated 19.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Mechanized Method	
2	Quarry Area	:	1.046 Ha	Life of Mine – 5year
3	Waste Generation	:	44744 cum O.B (During Mine Plan Period)	
4	Stripping Ratio	:	1:0.07	
5	Working Days	:	300	
6	Benches: size	:	5 m x 5 m	
7	Elevation of Mine	:	74m AMSL	
8	Ground Level Elevation	:	70m AMSL	
9	Ultimate Pit Depth	:	47m AMSL	
10	Water Table	:	Collar Height – 39.50m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	40.2 kg Nitro mix explosive (Will be obtain from licence vendors)	
13	Diesel/Fuel requirement	:	HSD – 328.74 liters / day (98.62 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable 95%	T.F.	Tonnes	Cum
1st	46712	2.7	126121	9680
2nd	49077	2.7	132508	19188
3rd	47909	2.7	129353	0
4th	30615	2.7	82660	0
5th	47760	2.7	128953	15876
Total	**222072**	**2.7**	**599594**	**44744**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Activities	0.000	1.046	Water body
2	Dumping	0.000	0.100	Plantation
3	Safety Zone	0.000	0.610	Plantation
4	Unutilized	1.756	0.000	
Total		**1.756**	**1.756**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety Zone		0.710 Ha	1136
3	Along Approach Road		207m	276
TOTAL				**1274**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 276 X 800 = Rs 2,20,800 (Gabion Plantation along approach road) 1136 X 400 = Rs 4,54,400 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	6,75,200	67520
3	Fencing	150000	
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**Rs 8,25,200**	**Rs 5,70,740**

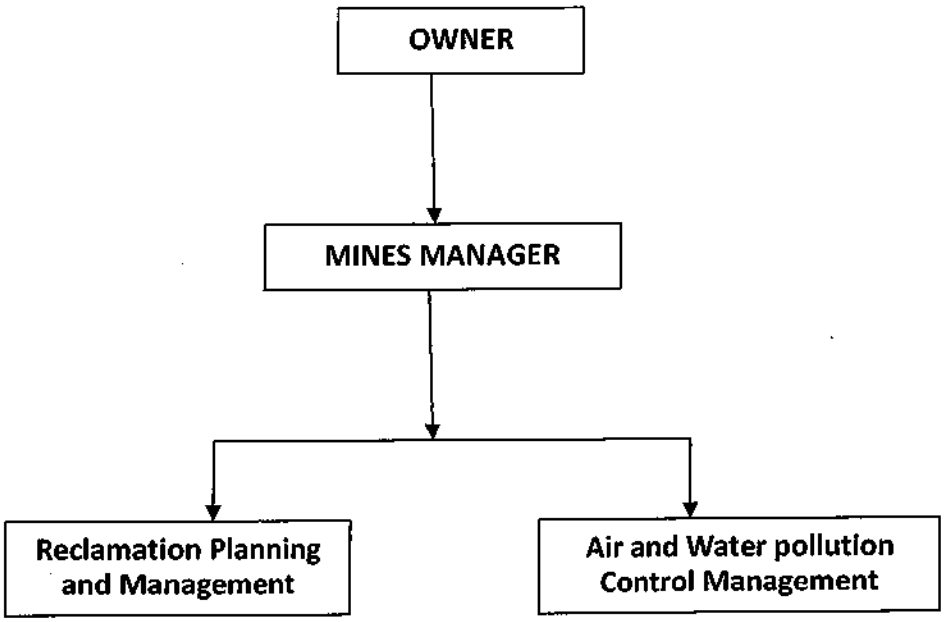
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

44744cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Haripur Stone Mine of Shri Gourachandra Mandal (Partner), Village : Haripur, Thana : Shikaripara, Distt. : Dumka, Jharkhand (1.756 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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7. **Belut Stone Mine of M/s Mahatha Stone Works (Partner : (i) Shri Kundan Kumar Mahatha (ii) Shri Bhudev Chandra Mahatha (iii) Shri Aditya Nath Ray), Village : Belut, Thana : Chas (Muffasil), Distt. : Bokaro, Jharkhand (1.655 Ha).**

(Proposal no.: SIA/JH/MIN/ 535500 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 27,585Cum. / annum or 77,238 TPA

Project and Location Details:

Sl. No.	Parameter		Details	
1	Project Name	:	Belut Stone Mine	
2	Lessee:	:	M/s Mahatha Stone Works Partner 1. Shri Kundan Kumar Mahatha 2. Shri Bhudev Chandra Mahatha 3. Shri Aditya Nath Ray	
3	Lessee Address	:	M/S Mahatha Stone Works Partner 1. Shri Kundan Kumar Mahatha, S/O Sadhan Mahatha, R/O- Near Kali Mandir, Sitanala Basti, Mahal, Dist Bokaro. 2. Shri Bhudev Chandra Mahatha S/O Kishan Lal Mahatha, R/O- Vill- Rangatanr, Po- Bhojudih, Ps- Chandankiyari, Dist- Bokaro. 3. Shri Aditya Nath Ray S/O Jagdev Ray, R/O- Vill+Po- Bhojudih, Ps- Chandankiyari, Dist. Bokaro.	
4	Lease Area	:	1.655 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 104.89 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 9.276 Lakhs	Recurring Cost: Rs. 5.903 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 1,75,770	Tonnes: 4,92,156
10	Mine Life	:	10 years.	
11	Man power	:	30 Person	
12	Water Requirement	:	7.127 KLD (Drinking: 0.450 KLD, Dust Suppression: 1.796 KLD, Plantation: 4.881 KLD)	
13	Water Source	:	From Nearby villages by tankers	

14	DG Set / power	:	20 KVA D.G. Set proposed
15	Crusher	:	No
16	Nearest Water Body	:	Gada River at 0.34 km NW Direction
17	Nearest Habitation	:	Belut Village ~~0.400 km~~ in SW Direction
18	Nearest Rail Station	:	Chas Railway Station is at areal distance of 5.24 km West direction.
19	Nearest Air Port	:	Birsa Munda Airport (Ranchi) is at areal distance of 104 km SW direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Bokaro letter no.- 2350 Dated- 14/11/2024
21	Road & Highways	:	Approach Road, is 0.449 km long. After that this road continues for 13 km and connects to NH 18.

CO-ORDINATES

Point Name	Latitude	Longitude
1	23° 41' 21.66192338" N	086° 15' 51.40464667" E
2	23° 41' 21.80142109" N	086° 15' 51.93781504" E
3	23° 41' 22.29030023" N	086° 15' 51.85092834" E
4	23° 41' 22.06774481" N	086° 15' 51.18592211" E
5	23° 41' 22.57948276" N	086° 15' 51.23058000" E
6	23° 41' 22.71154848" N	086° 15' 51.61516192" E
7	23° 41' 22.73174227" N	086° 15' 51.74522173" E
8	23° 41' 22.83759626" N	086° 15' 52.07990396" E
9	23° 41' 23.43223736" N	086° 15' 52.08151331" E
10	23° 41' 23.61321597" N	086° 15' 52.15896384" E
11	23° 41' 23.65408758" N	086° 15' 52.31059104" E
12	23° 41' 23.60639590" N	086° 15' 52.61975029" E
13	23° 41' 23.19520026" N	086° 15' 52.77206733" E
14	23° 41' 23.06072830" N	086° 15' 52.95911573" E
15	23° 41' 22.90909739" N	086° 15' 53.34903907" E
16	23° 41' 22.83878435" N	086° 15' 53.64334405" E
17	23° 41' 22.80434945" N	086° 15' 54.08433132" E
18	23° 41' 22.75502497" N	086° 15' 54.20366165" E
19	23° 41' 22.69640215" N	086° 15' 54.38366911" E
20	23° 41' 22.72958295" N	086° 15' 54.59706690" E
21	23° 41' 22.40364990" N	086° 15' 54.86285398" E
22	23° 41' 22.43734724" N	086° 15' 55.08352363" E
23	23° 41' 22.80175083" N	086° 15' 55.10221858" E
24	23° 41' 22.99098228" N	086° 15' 55.17441051" E
25	23° 41' 22.92250380" N	086° 15' 55.47085907" E
26	23° 41' 22.95918870" N	086° 15' 55.54563889" E
27	23° 41' 22.96897134" N	086° 15' 55.66849145" E
28	23° 41' 22.58709498" N	086° 15' 56.48852930" E

29	23° 41' 22.86834602" N	086° 15' 56.75560008" E
30	23° 41' 22.89119935" N	086° 15' 56.83249272" E
31	23° 41' 22.76598153" N	086° 15' 57.10266152" E
32	23° 41' 22.46027381" N	086° 15' 56.91571198" E
33	23° 41' 22.02549829" N	086° 15' 56.90223025" E
34	23° 41' 21.81776762" N	086° 15' 56.74899195" E
35	23° 41' 21.35775071" N	086° 15' 56.59870036" E
36	23° 41' 20.46722679" N	086° 15' 56.01542422" E
37	23° 41' 20.18002141" N	086° 15' 56.39493733" E
38	23° 41' 19.91023610" N	086° 15' 56.74792841" E
39	23° 41' 19.73350174" N	086° 15' 56.60273874" E
40	23° 41' 18.73177628" N	086° 15' 56.64620510" E
41	23° 41' 18.30898745" N	086° 15' 56.72554850" E
42	23° 41' 18.06175973" N	086° 15' 55.94495107" E
43	23° 41' 18.55989545" N	086° 15' 55.35420921" E
44	23° 41' 19.25653393" N	086° 15' 55.27601467" E
45	23° 41' 19.54367433" N	086° 15' 54.81112171" E
46	23° 41' 19.81725588" N	086° 15' 54.36275885" E
47	23° 41' 20.25352059" N	086° 15' 54.25931493" E
48	23° 41' 20.04159517" N	086° 15' 53.69339266" E
49	23° 41' 20.01844365" N	086° 15' 53.29860840" E
50	23° 41' 19.75655130" N	086° 15' 52.87919731" E
51	23° 41' 19.49465882" N	086° 15' 52.45978622" E
52	23° 41' 19.71135195" N	086° 15' 52.23422239" E
53	23° 41' 19.88018461" N	086° 15' 51.77148409" E
54	23° 41' 19.32412107" N	086° 15' 52.09376285" E
55	23° 41' 19.11352888" N	086° 15' 51.62109129" E
56	23° 41' 20.02649301" N	086° 15' 50.91075628" E
57	23° 41' 20.55242920" N	086° 15' 51.14265144" E
58	23° 41' 20.79997026" N	086° 15' 50.53643108" E
59	23° 41' 21.05401575" N	086° 15' 50.54607394" E
60	23° 41' 21.01977637" N	086° 15' 50.69830428" E
61	23° 41' 21.23832139" N	086° 15' 51.13042480" E
62	23° 41' 21.24094863" N	086° 15' 51.31726369" E
63	23° 41' 21.48355892" N	086° 15' 51.49331674" E
64	23° 41' 21.60388253" N	086° 15' 51.49403090" E

LAND DETAILS

Khata No.	Plot No.
180	665, 672, 668
35	691
60	673
05	657, 656

08	671, 658, 661, 662, 669, 660, 659, 755, 667, 666
178	753(P), 756, 757(P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Bokaro vide memo no. 1752/Khanan, dated 07.12.2024.
2	CO	:	The CO, Chas vide letter no. 1769, dated 08.08.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Bokaro vide memo no. 555/Khanan, dated 23.04.2025 certified that 02 other LoI (5.13 Acre & 3.00 Acre) exists within 500 m radius from proposed project site and total area is 12.22 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1867, dated 27.08.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Bokaro Forest Division vide letter no. 2350, dated 14.11.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Bokaro has been certified vide memo no. 582/Khanan, dated 29.04.2025 that this project is mentioned in approved DSR of Bokaro District as a potential area (Page no. 103).
7	Gram Sabha	:	BDO, Chas (Bokaro) vide letter no. 1041, dated 23.08.2024 informed that Gram Sabha conducted on 20.08.2024.
8	Mine Plan Approval	:	Approved by the Assistant Director, Geology, District Geological Office, Bokaro vide Memo No. 78, dated 09.04.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Mechanized Method	
2	Quarry Area	:	0.549 Ha	Life of Mine – 10year
3	Waste Generation	:	5476cum	
4	Stripping Ratio	:	01:0.02	
5	Working Days	:	300	
6	Benches: size	:	5 m x 5 m	
7	Elevation of Mine	:	183m–178m AMSL	

8	Ground Level Elevation	:	178m AMSL
9	Ultimate Pit Depth	:	151 m AMSL
10	Water Table	:	Collar Height - 134.28m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	23.1kg Nitro mix explosives/day (will be obtain from licenced Vendors)
13	Diesel/Fuel requirement	:	HSD – 274 Liters / day (82.2 KL/year)

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum	T.F.	Tonnes	Cum
1st	22575	2.8	63210	5476
2nd	27585	2.8	77238	0
3rd	19810	2.8	55468	0
4th	17120	2.8	47936	0
5th	11620	2.8	32536	0
Total	**98710**	2.8	**276388**	**5476**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Proposed Land use for current plan period (Ha)	Land to be used in remaining period of the life of the mine. (Ha)	Land used at the conceptual stage i.e. end of mine life in (Ha)	Area to be converted in the conceptual period.
1	Mining Activities	0	0.549	0.484	1.043	Water body
2	Safety Zone	0	0.612	0	0.612	Plantation
3	Unutilized	1.655	0.454	0	0	-
Total		**1.655**	**1.655**	**0.484**	**1.655**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety Zone		0.612 Ha	979

2	Along Approach Road		449m	600
TOTAL				**1579**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 600 X 800 = Rs 4,80,000 (Gabion Plantation along approach road) 979 X 400 = 3,91,600 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	8,71,600	87,160
3	Fencing	56,000	-
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
Total		9,27,600	5,90,380

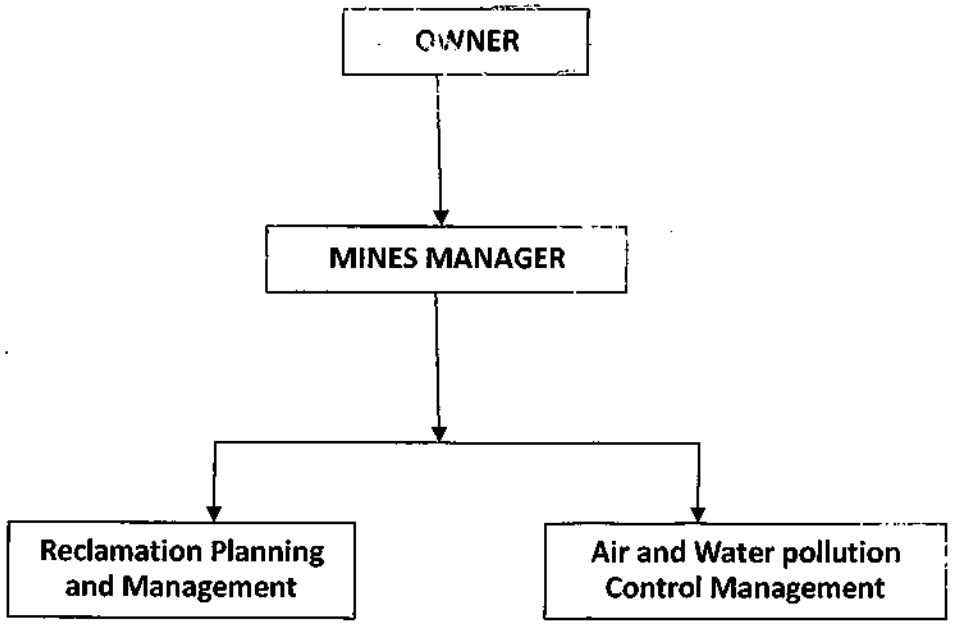
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

5476cum.O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.

- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping	Probable	Moderate	6

		(Bodily Injury)			
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.

- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.

- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an

interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Belut Stone Mine of M/s Mahatha Stone Works (Partner : (i) Shri Kundan Kumar Mahatha (ii) Shri Bhudev Chandra Mahatha (iii) Shri Aditya Nath Ray), Village : Belut, Thana : Chas (Muffasil), Distt. : Bokaro, Jharkhand (1.655 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a

time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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8. **Khutri Stone Mine of M/s Shiv Enterprises (Prop. : Shri Gopal Ji Pandey), Village : Khutri, Thana : Jaridih, Distt. : Bokaro, Jharkhand (1.619 Ha).**

(Proposal no.: SIA/JH/MIN/ 534222 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity:47748 Cum. (Max.) / 133694 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	KhutriStone Mine	
2	Lessee:	:	M/s Shiv Enterprises Shri Gopal Ji Pandey (Proponent)	
3	Lessee Address	:	M/s Shiv Enterprises Shri Gopal Ji Pandey (Proponent) S/o Late Gouri Shankar Pandey, R/o Vill – Tandbalidih, P.O.- Balidih, P.S.- Jaridih, Dist – Bokaro.	
4	Lease Area	:	1.619Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 130.19 Lakhs	Recurring Cost: Rs. 19.5 Lakhs
7	EMP Budget	:	Capital Cost: Rs 8.208 Lakhs	Recurring Cost: Rs. 5.753 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 184388	Tonnes: 516286
10	Mine Life	:	05 years.	
11	Man power	:	31Person	
12	Water Requirement	:	5.867 KLD (Drinking: 0.465 KLD, Dust Suppression: 1.40 KLD, Plantation: 4 KLD	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	60 KVA D.G. Set proposed	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Damodar River situated at North side from 2.02 km	
17	Nearest Habitation	:	Tantri Village – 0.88 Km in NE Direction	
18	Nearest Rail Station	:	Tupkadih station is at aerial distance of 4.33 km East direction	
19	Nearest Air Port	:	Birsa Munda Airport (Ranchi) is at aerial distance of 83.22 km SW direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Bokaro. letter no.-1265 Dated- 27/05/23	
21	Road & Highways	:	A well motorable road is connected to the Mine Site at a distance of 350m East direction. (Dumri-Bermo-Jaina) Road is at aerial distance of 1.57 Km SE Direction.	

CO-ORDINATES

Point Name	Latitude	Longitude
1	23° 42' 30.05690007" N	086° 01' 19.78705686" E
2	23° 42' 29.63271880" N	086° 01' 20.52335963" E
3	23° 42' 29.39056120" N	086° 01' 20.47723283" E
4	23° 42' 29.13865920" N	086° 01' 20.95217400" E

5	23° 42' 28.98985320" N	086° 01' 20.90793360" E
6	23° 42' 28.93354920" N	086° 01' 21.02456640" E
7	23° 42' 28.67929560" N	086° 01' 20.82055440" E
8	23° 42' 28.18599120" N	086° 01' 20.69706000" E
9	23° 42' 28.11186360" N	086° 01' 20.80413480" E
10	23° 42' 28.27000440" N	086° 01' 20.98369200" E
11	23° 42' 28.06573680" N	086° 01' 21.51742440" E
12	23° 42' 27.63805320" N	086° 01' 21.28968480" E
13	23° 42' 27.10389122" N	086° 01' 21.16639130" E
14	23° 42' 26.97403332" N	086° 01' 20.08408590" E
15	23° 42' 27.23657419" N	086° 01' 19.66294616" E
16	23° 42' 27.13936611" N	086° 01' 19.32127232" E
17	23° 42' 26.94051360" N	086° 01' 18.89077080" E
18	23° 42' 26.79455520" N	086° 01' 18.63296400" E
19	23° 42' 26.37481998" N	086° 01' 18.05792929" E
20	23° 42' 26.38326381" N	086° 01' 17.75323739" E
21	23° 42' 26.71143120" N	086° 01' 17.24344680" E
22	23° 42' 27.18761040" N	086° 01' 16.66688520" E
23	23° 42' 27.56340720" N	086° 01' 16.18298400" E
24	23° 42' 27.93915537" N	086° 01' 15.60622595" E
25	23° 42' 28.03511887" N	086° 01' 15.43733019" E
26	23° 42' 28.84197998" N	086° 01' 15.31296149" E
27	23° 42' 29.05886880" N	086° 01' 15.61156680" E
28	23° 42' 29.23389720" N	086° 01' 16.01825160" E
29	23° 42' 29.09747520" N	086° 01' 16.49443080" E
30	23° 42' 28.91294640" N	086° 01' 16.80863160" E
31	23° 42' 28.53893160" N	086° 01' 16.70291760" E
32	23° 42' 28.24734240" N	086° 01' 17.54660640" E
33	23° 42' 28.54469548" N	086° 01' 17.75164224" E
34	23° 42' 29.11050720" N	086° 01' 16.84995600" E
35	23° 42' 29.52292276" N	086° 01' 16.28799011" E
36	23° 42' 29.73427982" N	086° 01' 15.87065007" E
37	23° 42' 30.20041080" N	086° 01' 15.83244480" E
38	23° 42' 30.45378240" N	086° 01' 16.15016640" E
39	23° 42' 30.27682440" N	086° 01' 16.77756360" E
40	23° 42' 29.95999138" N	086° 01' 17.33174003" E
41	23° 42' 30.27112242" N	086° 01' 17.55290554" E
42	23° 42' 30.53544582" N	086° 01' 17.21407584" E
43	23° 42' 30.66624833" N	086° 01' 17.49641784" E
44	23° 42' 30.98955427" N	086° 01' 17.81581502" E
45	23° 42' 31.13522317" N	086° 01' 17.91115749" E
46	23° 42' 31.26921598" N	086° 01' 18.16797705" E
47	23° 42' 31.63042232" N	086° 01' 18.12848107" E
48	23° 42' 31.79274504" N	086° 01' 18.26936494" E
49	23° 42' 31.68444960" N	086° 01' 18.70802040" E
50	23° 42' 31.66031880" N	086° 01' 19.15443840" E
51	23° 42' 31.24656482" N	086° 01' 19.90484292" E
52	23° 42' 30.50799480" N	086° 01' 19.56772560" E

53	23° 42' 30.46206881" N	086° 01' 19.71687015" E

LAND DETAILS

Khata No.	Plot No.
66 & 24	2849, 2850 (P) & 2874

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Bokaro vide memo no. 237/Khanan, dated 22.02.2025.
2	CO	:	The CO, Jaridih (Bokaro) vide letter no. 84, dated 03.02.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Bokaro vide memo no. 528/Khanan, dated 15.04.2025 certified that 01 other mining lease area (6.00 Acre) exists within 500 m radius from proposed project site and total area is 10.00 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1709, dated 05.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Bokaro Forest Division vide letter no. 1265, dated 27.05.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Bokaro District (Page no. 93, Sl. No. 6).
7	Gram Sabha	:	BDO, Jaridih (Bokaro) vide letter no. 853, dated 26.07.2024 informed that Gram Sabha conducted on 05.10.2023.
8	Mine Plan Approval	:	Approved by the Assistant Director, Geology, District Geological Office, Bokaro vide Memo No. 82, dated 15.04.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method

2	Quarry Area	:	1.078Ha	Life of Mine – 05year
3	Waste Generation	:	33991cum	
4	Stripping Ratio	:	1:0.07	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	257m–245m AMSL	
8	Ground Level Elevation	:	245 AMSL	
9	Ultimate Pit Depth	:	229m AMSL	
10	Water Table	:	204m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	46.2 kg Slurry Explosives, will be obtain from licenced Vendors	
13	Diesel/Fuel requirement	:	HSD –328.74 Liters / day (986.22KL/year)	

Production Details

Year	Production of Stone / Year		Removal of O.B.
	Cum	Tonnes	Cum
1st	33040	92512	16870
2nd	34020	95256	0
3rd	32200	90160	0
4th	47748	133694	5551
5th	37310	104468	11570
Total	**184318**	**516090**	**33991**

Land Use pattern

Si. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha)	Proposed Land use for current plan period (Ha)
1	Mining Activities	0	1.078
2	Garland drain	0	0
3	Safety Zone	0	0.541
4	Unutilized	1.619	0
Total		**1.619**	**1.619**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone/ Dumping/ Offices/ Store etc.	0.541 Ha	866
2	Along Approach Road	350 m	468
TOTAL			**1334**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	1,00,000	
3	Plantation 468 X 800 = Rs 3,74,400(Gabion Plantation along approach road) 866 X 400 = Rs 3,46,400 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	7,20,800	72080
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2= Rs. 2,03,220** ***Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022***	--	2,03,220
Total		**Rs 8,20,800**	**Rs 5,75,300**

Environment Monitoring Programmed

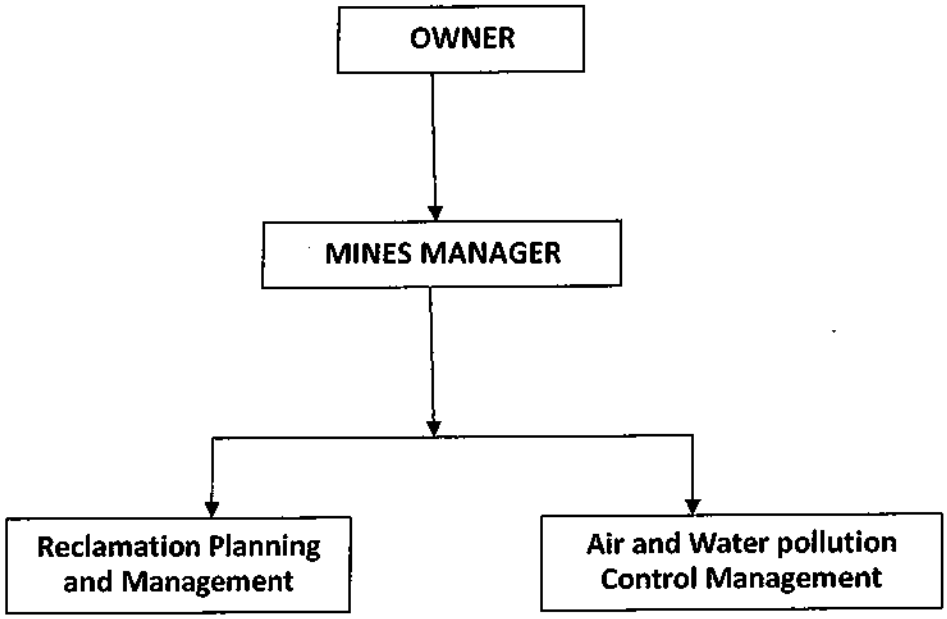
SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly

3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

33991cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how

risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.

h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Khutri Stone Mine of M/s Shiv Enterprises (Prop. : Shri Gopal Ji Pandey), Village : Khutri, Thana : Jaridih, Distt. : Bokaro, Jharkhand (1.619 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.
VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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9. **Labapara Stone Mine of Shri Fadar Ansari , Village : Labapara, Thana : Shikaripara, Distt. : Dumka, Jharkhand (1.016 Ha).**

(Proposal no.: SIA/JH/MIN/ 530593 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

TOR Application for: Proposed Capacity:13713 Cum. (Max.) / 37026 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	LabaparaStone MineDeposite	
2	Lessee:	:	Shri Fadar Ansari	
3	Lessee Address	:	Shri Fadar Ansari, S/o Late Awedin Ansari, R/o Vill – Jogikhop, P.O – RajbandhPalasi, P.S – Shikaripara, Dist – Dumka, 816118 State- Jharkhand.	
4	Lease Area	:	1.016Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 121.44Lakhs	Recurring Cost: Rs. 9.12Lakhs
7	EMP Budget	:	Capital Cost: Rs.5.916Lakhs	Recurring Cost: Rs.5.842Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 54337	Tonnes: 146710
10	Mine Life	:	05 years.	
11	Man power	:	25Person	
12	Water Requirement	:	5 KLD	

13	Water Source	:	From Nearby villages by tankers
14	DG Set / power	:	20 KVA D.G. Set proposed
15	Crusher	:	No Crusher
16	Nearest Water Body	:	Brahmani River flowing East to West at 5.7 km North Direction from the Mine site.
17	Nearest Habitation	:	Pokharia Village – 0.84 Km in SE Direction
18	Nearest Rail Station	:	Pakdaha Harinsing Railway Station at areal distance of 4.95 km in NE direction.
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 89073 km at North West direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Dumka.Letter no.-2303 Dated- 16/10/24
21	Road & Highways	:	The distance of Approach Road is 54m. after that this road connects to village road. The village road continues for 3.00 km and after this the road connects to MDR Sarasdangal to Shikaripara.
22	Baseline Monitoring Period	:	March, 2025 to May, 2025.
23	Cluster Details	:	DMO Dumka vidememo No – 527/M, Dated- 19/03/2025 certified that 06 other mining lease area (4.34 Acre, 7.37 Acre, 7.36 acre, 7.31 Acre, 4.00 Acre & 5.70 Acre) existswithin 500 meters radius from proposed project site total area is 38.59Acre.

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 11' 46.23105514" N	087° 33' 29.26326280" E
2	24° 11' 46.79194404" N	087° 33' 29.50958205" E
3	24° 11' 47.10602299" N	087° 33' 28.69641028" E
4	24° 11' 48.59790296" N	087° 33' 29.06770960" E
5	24° 11' 49.85096817" N	087° 33' 29.33721853" E
6	24° 11' 50.63316223" N	087° 33' 29.42289822" E
7	24° 11' 50.44313254" N	087° 33' 30.32709348" E
8	24° 11' 51.11787522" N	087° 33' 30.45993994" E
9	24° 11' 51.62591020" N	087° 33' 30.56174881" E
10	24° 11' 52.09664292" N	087° 33' 30.74569197" E
11	24° 11' 51.94991604" N	087° 33' 31.29677808" E
12	24° 11' 51.91586046" N	087° 33' 31.64557878" E
13	24° 11' 51.25246241" N	087° 33' 31.75859977" E
14	24° 11' 50.90538816" N	087° 33' 31.48960721" E
15	24° 11' 50.07729533" N	087° 33' 31.52497856" E
16	24° 11' 49.38684374" N	087° 33' 31.73241933" E
17	24° 11' 49.15618553" N	087° 33' 31.42136897" E

Point Name	Latitude	Longitude
18	24° 11' 48.34789137" N	087° 33' 30.88089811" E
19	24° 11' 48.13018416" N	087° 33' 30.67642831" E
20	24° 11' 46.87283543" N	087° 33' 30.68831282" E
21	24° 11' 46.38753170" N	087° 33' 31.48720489" E
22	24° 11' 45.25841697" N	087° 33' 30.81902141" E
23	24° 11' 45.59565953" N	087° 33' 29.71713699" E

LAND DETAILS

Khata no.	Plot no.
10	87 (P) & 88 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 1429/M, dated 24.12.2024.
2	CO	:	The CO, Shikaripara vide letter no. 1065/Ra., dated 04.12.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 527/M, dated 19.03.2025 certified that 06 other mining lease area (4.34 Acre, 7.37 Acre, 7.36 Acre, 7.31 Acre, 4.00 Acre & 5.70 Acre) exists within 500 meters radius from proposed project site and total area is 38.59 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2167, dated 09.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 2303, dated 16.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has been certified vide memo no. 557/M, dated 27.03.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 318, Sl. no. 54).
7	Gram Sabha	:	Gram Sabha conducted on 08.07.2024.
8	Mine Plan	:	Approved by District Mining Officer, Dumka vide Letter No.

	Approval		517/M, dated 17.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	0.623Ha	Life of Mine – 05year
3	Waste Generation	:	12505cum	
4	Stripping Ratio	:	1:0.09	
5	Working Days	:	300	
6	Benches: size	:	5 m x 5 m	
7	Elevation of Mine	:	250m–236m AMSL	
8	Ground Level Elevation	:	236 AMSL	
9	Ultimate Pit Depth	:	214m AMSL	
10	Water Table	:	208m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	13.4 kg Nitro mix explosive will be obtained from licensed vendor	
13	Diesel/Fuel requirement	:	HSD – 356.46 liters / day (106.93 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum	T.F.	Tonnes	Cum
1st	13713	2.7	37026	6475
2nd	8099	2.7	21867	0
3rd	12985	2.7	35058	6030
4th	9738	2.7	26294	0
5th	9675	2.7	26122	0
Total	54210	2.7	146367	12505

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)
1	Mining Activities	0.000	0.623
2	Garland drain	0.000	0.026
3	Safety Zone	0.000	0.393
4	Unutilized	1.016	0.000
Total		1.016	1.016

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone/ Dumping/ Offices/ Store etc.		0.393 Ha	629
2	Along Approach Road		300m	400
TOTAL				**1029**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

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	Notification, New Delhi, the 23rd February, 2022		
Total		Rs 6,71,600	Rs 5,84,260

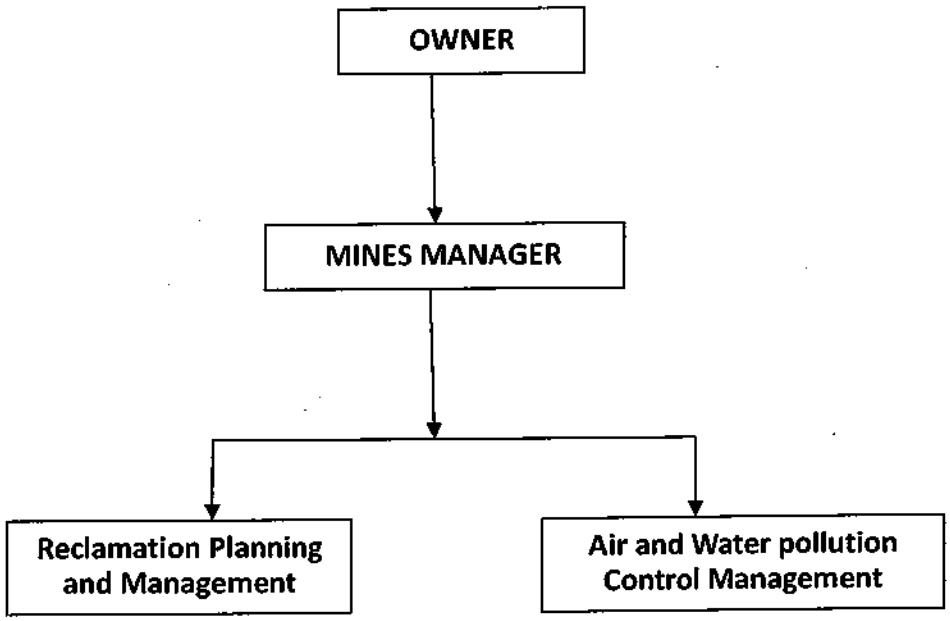
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Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material,	Very Unlikely	Minor	20

		Exposure to Dust			
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
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Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.

- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and Its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.

c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

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10. Rambani Stone Mine of M/s Shiv Shankar Enterprises (Partners : Shri Vidit Kumar & Shri Deepak Kumar) , Village : Rambani, Thana : Gopikandar, Distt. : Dumka, Jharkhand (1.926 Ha).

(Proposal no.: SIA/JH/MIN/ 530594 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

ToR Application for: Proposed Capacity: 43,897 Cum. / annum or 1,18,521 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Rambani Stone Mine	
2	Lessee:	:	M/s Shiv Shankar Enterprises Shri Vidit Kumar & Shri Deepak Kumar	
3	Lessee Address	:	Shri Vidit Kumar S/o Virendra Vir, Vill- Subhas Bazar, 1175 Kabli Gate, Dist. Merut (UP) Shri Deepak Kumar S/o Ashok Kumar Jaiswal, R/o HG Housing Colony no. 11, Thana-Kortmor, Dist.- Dhanbad (Jharkhand).	
4	Lease Area	:	1.962 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 140.67 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 7.76 Lakhs	Recurring Cost: Rs. 5.1082 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 1,87,461 cum	Tonnes: 5,06,144 tons
10	Mine Life	:	5 years.	
11	Man power	:	19 Person	
12	Water Requirement	:	5.835 KLD (Drinking: 0.285 KLD, Dust Suppression: 1.560KLD, Plantation: 3.990KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	Tripita River – 5 km – SW direction.	
17	Nearest Habitation	:	Salbonapahar Village – 0.800 Km in NW Direction	
18	Nearest Rail Station	:	Pakdaha Harinsing Railway Station is at areal distance of 23.50 km S direction.	

19	Nearest Air Port	:	Deoghar Airport is at areal distance of 82.50 km W direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Dumka. letter no.- 1226, dated 02/06/2021.
21	Road & Highways	:	SH–18 (Dumka-Sahibganj Road) is at areal distance of 2.30 km W Direction.
22	Baseline Monitoring Details	:	March, 2025 to May, 2025.
23	Cluster Details	:	DMO, Dumka vide memo no – 1194/M, dated 19/10/2024 certified that 6 other mining lease area (6.76 Acre, 4.87 Acre, 7.33 Acre, 4.28 Acre, 7.00 Acre, 6.00 Acre) exists within 500 meters radius from proposed project site and total area is 41.00 Acre.

CO-ORDINATES

Sl. No.	Latitude	Longitude
P1	24° 26' 51.85831223" N	087° 31' 46.92808536" E
P2	24° 26' 52.08438992" N	087° 31' 48.82661601" E
P3	24° 26' 52.33340173" N	087° 31' 50.27506181" E
P4	24° 26' 50.78533752" N	087° 31' 49.70147594" E
P5	24° 26' 49.81175460" N	087° 31' 48.87677637" E
P6	24° 26' 49.66181544" N	087° 31' 48.88243556" E
P7	24° 26' 49.17366008" N	087° 31' 48.62250329" E
P8	24° 26' 48.49361065" N	087° 31' 47.97289248" E
P9	24° 26' 47.81284145" N	087° 31' 48.07592181" E
P10	24° 26' 47.01540079" N	087° 31' 47.81164375" E
P11	24° 26' 45.40946638" N	087° 31' 49.01733129" E
P12	24° 26' 45.25467528" N	087° 31' 48.46865908" E
P13	24° 26' 43.85362276" N	087° 31' 47.37868662" E
P14	24° 26' 43.94417658" N	087° 31' 46.30067095" E
P15	24° 26' 44.47301470" N	087° 31' 45.04452150" E
P16	24° 26' 44.84188039" N	087° 31' 45.58311105" E
P17	24° 26' 45.96496714" N	087° 31' 46.24944559" E
P18	24° 26' 45.96458935" N	087° 31' 46.35734430" E

P19	24° 26' 47.42225733" N	087° 31' 45.91325696" E
P20	24° 26' 49.72306112" N	087° 31' 45.70184501" E
P21	24° 26' 50.44731789" N	087° 31' 45.87244054" E
P22	24° 26' 50.87771268" N	087° 31' 46.70392172" E

LAND DETAILS

Khata no.	Plot no.
02, 07, 10 & 20	139, 140, 141, 142 & 217

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 1065/M, dated 18.09.2024.
2	CO	:	The CO, Gopikandar vide letter no. 395/Ra., dated 04.08.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 1194/M, dated 19.10.2024 certified that 01 LoI (6.76 Acre) and 05 other mining lease area (4.87 Acre, 7.33 Acre, 4.28 Acre, 7.00 Acre & 6.00 Acre) exists within 500 meters radius from proposed project site and total area is 41.00 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 804, dated 09.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 1226, dated 02.06.2021 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dumka District (Page no. 162, Sl. no. 65).
7	Gram Sabha	:	Gram Sabha conducted on 15.05.2021.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 499/M, dated 10.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and

			affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	1.313 Ha	Life of Mine – 5years
3	Waste Generation	:	13602 cum	
4	Stripping Ratio	:	01:0.03	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	272 m–251m AMSL	
8	Ground Level Elevation	:	251m AMSL	
9	Ultimate pit Depth	:	134m AMSL	
10	Water Table	:	Collar Height- 126 m AMSL Pre- Monsoon- 119 m AMSL Post Monsoon- 124 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	37.42kg Nitro mix explosives/day Will be obtained from licensed vendors.	
13	Diesel/Fuel requirement	:	HSD – 259.77liters / day (77.93 KL/year)	

Production Details

Years	Production in Cum/Year	O.B. in Cum/Year	Production in Tons/Year
1st	43897	9436	118521
2nd	37287	0	100674
3rd	35952	0	97070
4th	37899	2145	102328
5th	32426	2021	87551
Total	187461	13602	506144

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.

1	Mining Quarry	0	1.313	Water body
5	Settling Tank	0	0.007	-
6	Safety Zone	0	0.606	Plantation
7	Unutilized	1.926	0	-
Total		1.926	1.926	-

ENVIRONMENT MANAGEMENT
Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety Zone		0.606 Ha	970
2	Along Approach Road		270 m	360
TOTAL				**1330**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	100000	-
3	Plantation 360 X 800 = Rs 2,88,000 (Gabion Plantation along approach road) 970 X 400 = 3,88,000 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	6,76,000	67,600

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		7,76,000	5,10,820

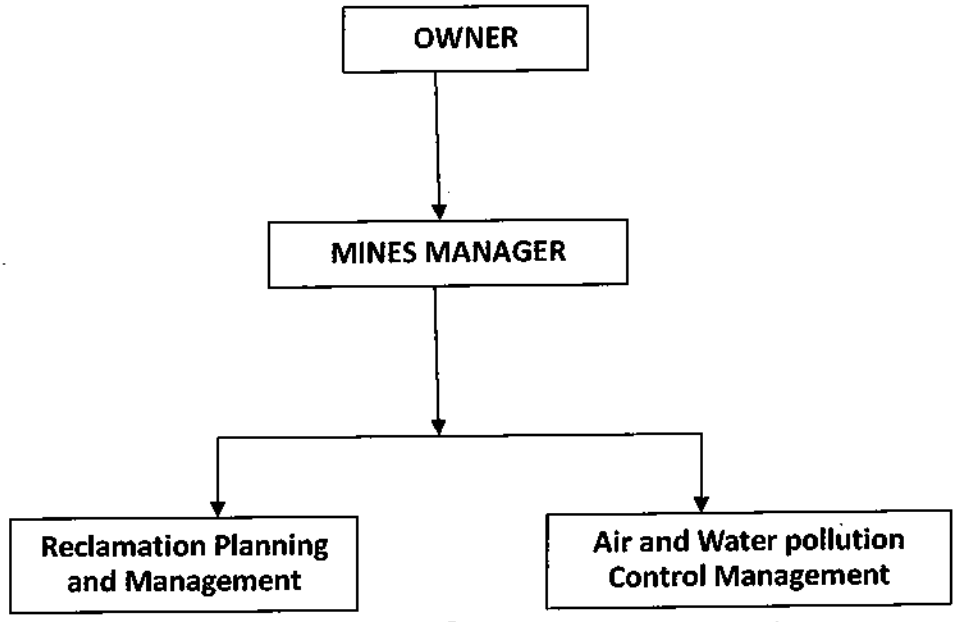
Environment Monitoring Programme:

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 stations	6 Monthly

Solid Waste Management

NO O.B shall be generated during the scheme period which shall be used in backfilling the mine void.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

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		(Bodily Injury)			
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maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

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- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective

equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

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11. **Gosainpahari Stone Mine of M/s Karnika Mining Pvt. Ltd. (Prop. : Shri Ravi Shankar Kumar & Shri Manick Chand Maheshwari), Village : Gosainpahari, Thana : Shikaripara, Distt. : Dumka, Jharkhand (2.335 Ha).**

(Proposal no.: SIA/JH/MIN/ 532962 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

TOR Application for: Proposed Capacity:64,529 Cum / 1,74,228 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Gosainpahari Stone Mine	
2	Lessee:	:	M/s Karnika Mining Pvt. Ltd. (Prop.: Shri Ravi Shankar Kumar & Shri Manick Chand Maheshwari),	
3	Lessee Address	:	1. Shri Ravi Shankar Kumar S/o Shri Upendra Prasad Singh, R/o House No. 298, Ward no.- 04, Near Singh Borewell, Williams Town, Shri Krishnapuri Deoghar, PO + PS + Dist.- Deoghar, 814112. 2. Shri Manick Chand Maheshwari S/o Shri Shyam Sundar Maheshwari, Sarai Road Purana Police Club Road, Sonwadangal, Dumka, 814101.	
4	Lease Area	:	2.335Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 132.385 Lakhs	Recurring Cost: Rs. 12.385 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 9.36 Lakhs	Recurring Cost: Rs. 5.2682 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 2,78,626 cum	Tonnes: 7,52,289 tons
10	Mine Life	:	05 years.	
11	Man power	:	21Person	
12	Water Requirement	:	7.097 KLD (Drinking: 0.315KLD, Dust Suppression: 0.1.82KLD, Plantation: 4.962 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No Crusher	
16	Nearest Water	:	Brahmani River flowing East to West at 13km North Direction	

	Body		
17	Nearest Habitation	:	Shikharipara – 14 km in the NW direction.
18	Nearest Rail Station	:	Pakdaha Harinsing Railway Station is at areal distance of 11.45 km N direction.
19	Nearest Air Port	:	Deoghar Airport is at areal distance of 93.15 km NW direction.
20	Nearest Forest	:	DFO (Dumka), letter no.-1930 Dated: 23.08.2024 certified that the distance of reserved / protected forest is more than 250 m from proposed project site. The battery point is a distance 610 m from notified forest.
21	Road & Highways	:	NH–114A (Dumka-Rampurhat Road) is at areal distance of 9 km N direction.
22	Baseline Monitoring Period	:	March, 2025 to May, 2025
23	Cluster Details	:	DMO, Dumka, vide memo no.- 510/M, Dated- 12/03/2025, Certified that 2 other mining lease (5.32 acre & 6.36 acre) exists within 500 m radius from proposed project site and total area is 17.45 acre.

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 08' 11.73701438" N	087° 34' 10.56401882" E
2	24° 08' 12.25197328" N	087° 34' 10.82472833" E
3	24° 08' 12.08929066" N	087° 34' 11.13122386" E
4	24° 08' 11.85727307" N	087° 34' 11.64001177" E
5	24° 08' 11.58219624" N	087° 34' 12.25322446" E
6	24° 08' 11.37161258" N	087° 34' 12.73553329" E
7	24° 08' 11.14591028" N	087° 34' 13.18622361" E
8	24° 08' 10.90194470" N	087° 34' 14.03704628" E
9	24° 08' 10.66134426" N	087° 34' 14.80318608" E
10	24° 08' 10.45436082" N	087° 34' 15.13771355" E
11	24° 08' 10.11137198" N	087° 34' 15.16442185" E
12	24° 08' 09.90385076" N	087° 34' 15.23490725" E
13	24° 08' 09.59696629" N	087° 34' 15.27286906" E
14	24° 08' 09.29265078" N	087° 34' 15.27683249" E
15	24° 08' 09.30958566" N	087° 34' 15.67035995" E
16	24° 08' 09.59152409" N	087° 34' 15.94559628" E
17	24° 08' 09.58518982" N	087° 34' 16.07522971" E
18	24° 08' 09.67769019" N	087° 34' 16.13790620" E
19	24° 08' 09.98243794" N	087° 34' 16.14963745" E
20	24° 08' 09.69206913" N	087° 34' 16.75032668" E
21	24° 08' 09.43038631" N	087° 34' 17.32000275" E
22	24° 08' 09.14250314" N	087° 34' 17.89215521" E

23	24° 08' 08.86474843" N	087° 34' 18.30347994" E
24	24° 08' 08.50979247" N	087° 34' 18.98171975" E
25	24° 08' 08.37243936" N	087° 34' 19.26341143" E
26	24° 08' 08.22716268" N	087° 34' 18.99042568" E
27	24° 08' 08.30785512" N	087° 34' 18.60385950" E
28	24° 08' 08.00792465" N	087° 34' 18.31474474" E
29	24° 08' 07.39165630" N	087° 34' 19.17442367" E
30	24° 08' 06.77538664" N	087° 34' 20.03410030" E
31	24° 08' 06.58003819" N	087° 34' 20.55579230" E
32	24° 08' 06.05412633" N	087° 34' 20.52287020" E
33	24° 08' 05.48818555" N	087° 34' 20.40881601" E
34	24° 08' 05.80370162" N	087° 34' 19.50062518" E
35	24° 08' 05.56815208" N	087° 34' 19.28319244" E
36	24° 08' 05.61408628" N	087° 34' 18.85591697" E
37	24° 08' 06.14738187" N	087° 34' 18.53524628" E
38	24° 08' 06.35961069" N	087° 34' 18.74890280" E
39	24° 08' 06.59463801" N	087° 34' 19.07509044" E
40	24° 08' 06.99563851" N	087° 34' 18.95452398" E
41	24° 08' 07.17329248" N	087° 34' 18.39522421" E
42	24° 08' 06.95815710" N	087° 34' 18.28479852" E
43	24° 08' 06.89019970" N	087° 34' 18.18719407" E
44	24° 08' 06.81967164" N	087° 34' 17.32753589" E
45	24° 08' 06.33795040" N	087° 34' 17.21499780" E
46	24° 08' 06.34571466" N	087° 34' 16.88403554" E
47	24° 08' 06.41304555" N	087° 34' 16.34185096" E
48	24° 08' 06.10711637" N	087° 34' 16.34779772" E
49	24° 08' 05.89712139" N	087° 34' 16.42763878" E
50	24° 08' 05.70506172" N	087° 34' 16.40659037" E
51	24° 08' 05.69329021" N	087° 34' 15.90277687" E
52	24° 08' 05.64279180" N	087° 34' 15.58371598" E
53	24° 08' 05.78036956" N	087° 34' 15.56838327" E
54	24° 08' 05.95139804" N	087° 34' 14.95484944" E
55	24° 08' 05.97120992" N	087° 34' 14.95639003" E
56	24° 08' 06.45688094" N	087° 34' 15.03708075" E
57	24° 08' 06.94114700" N	087° 34' 15.15872996" E
58	24° 08' 07.21870783" N	087° 34' 15.21174721" E
59	24° 08' 07.29227316" N	087° 34' 14.90272430" E
60	24° 08' 07.39809095" N	087° 34' 14.61158796" E
61	24° 08' 07.58992958" N	087° 34' 14.69961587" E
62	24° 08' 07.82928319" N	087° 34' 14.77247088" E
63	24° 08' 08.19429200" N	087° 34' 14.79157245" E
64	24° 08' 08.23065864" N	087° 34' 14.37515354" E
65	24° 08' 08.16693012" N	087° 34' 14.22202387" E

66	24° 08' 08.29887670" N	087° 34' 13.94817589" E
67	24° 08' 08.38070201" N	087° 34' 13.58084669" E
68	24° 08' 08.44704045" N	087° 34' 13.18893527" E
69	24° 08' 08.39632577" N	087° 34' 13.18764741" E
70	24° 08' 08.34186953" N	087° 34' 12.62199632" E
71	24° 08' 08.34518551" N	087° 34' 12.25641140" E
72	24° 08' 09.02554719" N	087° 34' 11.79727947" E
73	24° 08' 09.70590850" N	087° 34' 11.33814621" E
74	24° 08' 09.71123808" N	087° 34' 11.33018732" E
75	24° 08' 10.34274746" N	087° 34' 10.32329895" E
76	24° 08' 10.35094849" N	087° 34' 10.31086725" E
77	24° 08' 10.93522186" N	087° 34' 09.42525508" E
78	24° 08' 11.39880124" N	087° 34' 09.69832387" E
79	24° 08' 11.91182680" N	087° 34' 10.06777825" E

LAND DETAILS

Khata no.	Plot no.
14, 22, 26, 33 & 34	235, 236, 237, 238, 266, 267, 268, 269, 270, 271, 273, 282, 284, 285, 286, 287, 288, 289, 290 & 298

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 486/M, dated 06.03.2025.
2	CO	:	The CO, Shikaripara vide letter no. 97/Ra., dated 08.02.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 510/M, dated 12.03.2025 certified that 01 LoI (5.32 Acre) and 01 other mining lease area (6.36 Acre) exists within 500 meters radius from proposed project site and total area is 17.45 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 55, dated 09.01.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 1930, dated 23.08.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project

			site.
6	DSR	:	The DMO, Dumka has been certified vide memo no. 568/M, dated 04.04.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 318, Sl. no. 69).
7	Gram Sabha	:	Gram Sabha conducted on 24.07.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 525/M, dated 19.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	1.501Ha	Life of Mine – 05year
3	Waste Generation	:	40480cum	
4	Stripping Ratio	:	01:0.05	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	124m–113m AMSL	
8	Ground Level Elevation	:	113 AMSL	
9	Ultimate Working Depth	:	90m AMSL	
10	Water Table	:	79 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	53.46 kg/day nitro mix explosives will be obtain from licenced Vendors	
13	Diesel/Fuel requirement	:	HSD – 287.49 liters / day (86.247 KL/year)	

Production Details

SUMMARY OF YEARWISE OF PRODUCTION			
Year	**Production in Cum/Year**	**O.B. in Cum/Year**	**Production in Tons/Year**
1st	53860	40480	145423
2nd	64529	0	174228
3rd	64078	0	173009

4th	51272	0	138433
5th	44888	0	121196
Total	**278626**	**40480**	**752289**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Activities	-	1.501	1.501	Water body
	Dumping	-	0.052	0.052	Plantation
3	Garland drain	-	0.051	-	-
4	Settling Tank	-	0.003	0.003	-
5	Safety Zone	-	0.761	0.761	Plantation
6	Unutilized	2.335	0.018	0.018	Plantation
Total		2.335	2.335	2.335	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone/ Dumping/ Offices/ Store etc.		0.761Ha	1218
2	Along Approach Road		325m	436
TOTAL				**1654**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 800 per Tanker)	--	2,40,000
2	Plantation 436 X 800 – Rs 3,48,800 (Gabion Plantation along approach road) 1218 X 400 = 4,87,200 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	8,36,000	83,600
3	Fencing	1,00,000	
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) - Rs.12,420 • Noise 24 hrs (3 point) - Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**9,36,000**	**5,26,820**

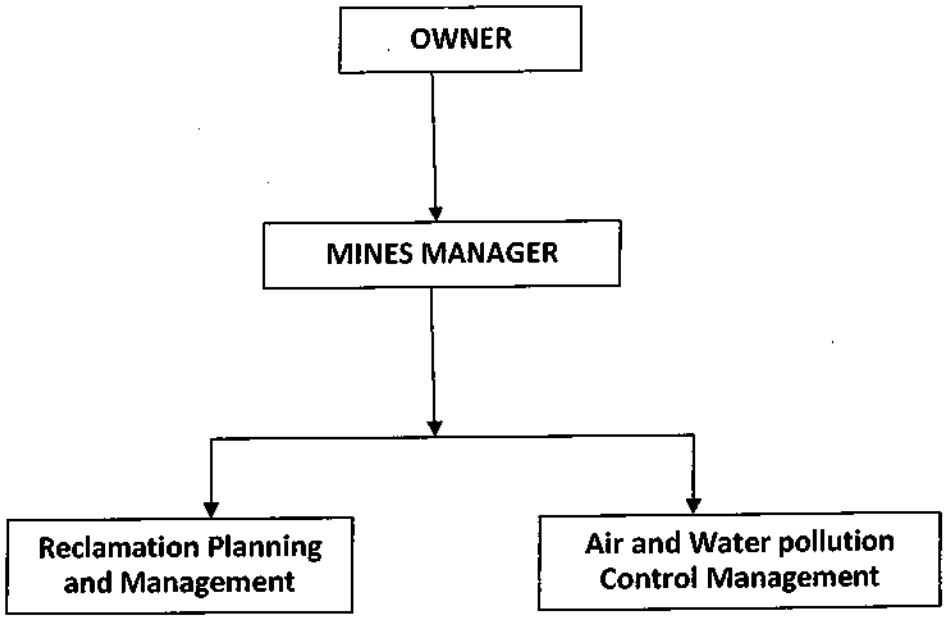
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

40,480 cum.O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.
The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.
The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
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Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people

become aware of the blasting activities being undertaken in the area and take appropriate precautions.

- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

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Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

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12. Sialpahari Stone Mine of M/s Shivay Minerals & Mining (Prop. : Shri Saral Kumar), Village : Sialpahari, Thana : Shikaripara, Distt. : Dumka, Jharkhand (1.76 Ha).

(Proposal no.: SIA/JH/MIN/ 532511 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

ToR Application for: Proposed Capacity: 80,355Cum. / annum or 2,16,958 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Sialpahari Stone Mine	
2	Lessee:	:	M/S Shivay Minerals & Mining Proponent: Shri Saral Kumar	
3	Lessee Address	:	M/S Shivay Minerals & Mining. Proponent: Shri Saral Kumar S/O Shri Ranjit Choudhary Vill- Gauryari Bagh, Near Hanuman Mandir, Po+Ps+Dist.-Ramgarh, Jharkhand, 829122.	
4	Lease Area	:	1.76 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 136.79 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 6.264 Lakhs	Recurring Cost: Rs. 5.558Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 3,47,221 cum	Tonnes: 9,37,497 tons
10	Mine Life	:	5 years.	
11	Man power	:	23Person	
12	Water Requirement	:	4.28 KLD (Drinking: 0.345 KLD, Dust Suppression: 0.86KLD, Plantation: 3.08KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	Brahmani River at 8 km North direction.	
17	Nearest Habitation	:	Sialpahari Village – 0.90 Km in NE Direction	

18	Nearest Rail Station	:	Pinergaria Railway Station at aerial distance of 5.21 km at North West direction.
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 102 km at North West direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Dumka. letter no.- 310 Dated- 11.02.2025
21	Road & Highways	:	The distance of Approach Road is 215m starts from East side of the lease area, after that, this road connects to village road.
22	Monitoring Period	:	March 2025 to May 2025
23	Cluster Details	:	DMO, Dumka vide memo no – 530/M Dated- 19.03.2025 certified that 02 other mining lease (7.15 acre & 7.16 acre) exists within 500 meters radius from proposed project site and total area is 18.668 Acre.

CO-ORDINATES

1	24° 09' 52.76354859" N	087° 39' 26.56770688" E
2	24° 09' 52.81187153" N	087° 39' 25.70275606" E
3	24° 09' 52.85227962" N	087° 39' 24.93931859" E
4	24° 09' 52.90959140" N	087° 39' 24.56031822" E
5	24° 09' 53.07075444" N	087° 39' 23.76968304" E
6	24° 09' 53.23191635" N	087° 39' 22.97904729" E
7	24° 09' 53.43519496" N	087° 39' 22.10518148" E
8	24° 09' 54.09305691" N	087° 39' 22.34117702" E
9	24° 09' 54.44035154" N	087° 39' 22.50478429" E
10	24° 09' 54.83421894" N	087° 39' 22.62817169" E
11	24° 09' 54.61669334" N	087° 39' 23.57782602" E
12	24° 09' 55.21955085" N	087° 39' 23.65676756" E
13	24° 09' 56.01262152" N	087° 39' 23.74173925" E
14	24° 09' 56.76308422" N	087° 39' 24.02372769" E
15	24° 09' 57.66642314" N	087° 39' 24.36212930" E
16	24° 09' 58.48040979" N	087° 39' 24.62549565" E
17	24° 09' 57.89614854" N	087° 39' 25.67999710" E
18	24° 09' 57.31188531" N	087° 39' 26.73449585" E
19	24° 09' 56.81680106" N	087° 39' 27.62803635" E

20	24° 09' 56.26534622" N	087° 39' 28.62331061" E
21	24° 09' 55.23383815" N	087° 39' 27.87966339" E
22	24° 09' 54.22027808" N	087° 39' 27.27771475" E
23	24° 09' 53.49191347" N	087° 39' 26.92271025" E

LAND DETAILS

Khata no.	Plot no.
13	142
8	143 (P) & 146 (P)
3	147 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 492/M, dated 07.03.2025.
2	CO	:	The CO, Shikaripara vide letter no. 179/Ra., dated 03.03.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 530/M, dated 19.03.2025 certified that 02 LoI (7.15 Acre & 7.16 Acre) exists within 500 meters radius from proposed project site and total area is 18.668 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 201, dated 15.02.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 310, dated 11.02.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has been certified vide memo no. 580/M, dated 07.04.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 318 & Sl. No. 78).
7	Gram Sabha	:	Gram Sabha conducted on 19.01.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 535/M, dated 20.03.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and

			affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	1.248 Ha	Life of Mine – 5year
3	Waste Generation	:	26093cum	
4	Stripping Ratio	:	01:0.03	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	64m–61m AMSL	
8	Ground Level Elevation	:	61m AMSL	
9	Ultimate Working Depth	:	20 m AMSL	
10	Water Table	:	12.45 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	74.844kg Nitro mix explosives/day	
13	Diesel/Fuel requirement	:	HSD – 314.88liters / day (94.464 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable 95%	T.F.	Tonnes	Cum
1st	57778	2.7	156001	26093
2nd	80355	2.7	216958	0
3rd	70218	2.7	189589	0
4th	69573	2.7	187848	0
5th	69205	2.7	186853	0
Total	**347129**		**937248**	**26093**

Land Use pattern

Si. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Quarry	-	1.248	1.248	Water body
2	Dumping	-	0.051	0.051	Plantation

3	Garland drain	-	0.028	0.028	Included in Safety Zone
4	Settling Tank	-	0.001	0.001	-
5	Safety Zone	-	0.411	0.411	Plantation
5	Unutilized	1.76	-	0.049	-
Total		**1.76**	**1.76**	**1.76**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety Zone		0.411 Ha	658
2	Dumping		0.051	82
3	Along Approach Road		215m	288
TOTAL				**1028**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	1,00,000	
3	Plantation 288 X 800 = Rs 2,30,400 (Gabion Plantation along approach road) 740 X 400 = Rs 2,96,000 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	5,26,400	52,640
4	Environmental Monitoring (One Day Monitoring)	--	2,03,220

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
	• Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610** **(Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**		
Total		**Rs 6,26,400**	**Rs 5,55,860**

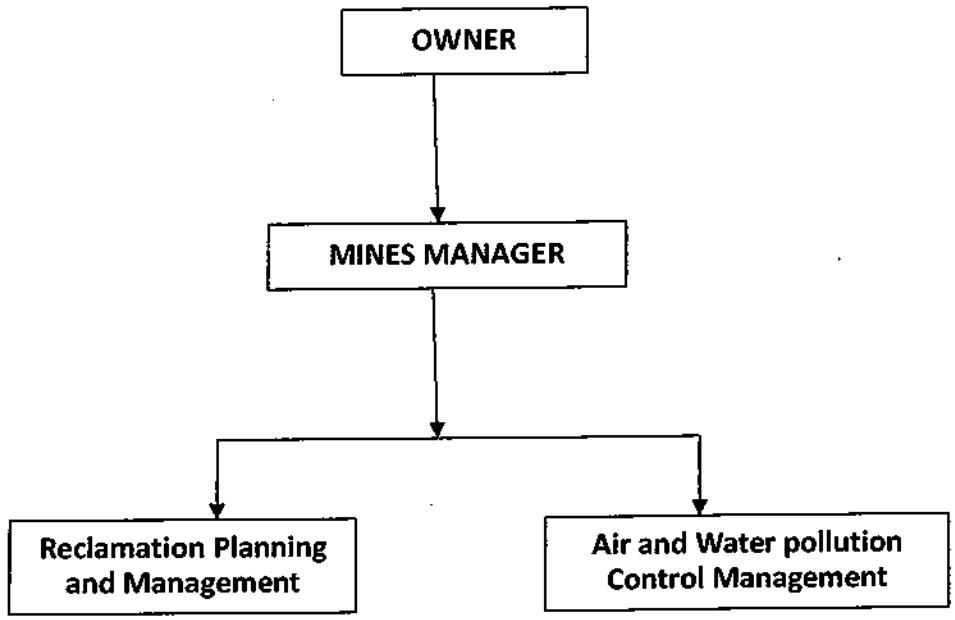
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

26093cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5

5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
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Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

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- Blast site shall be wetted before and after blasting operations are completed.

- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
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interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

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Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

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- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

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13. Salbonapahar Stone Mine of M/s Jyoti Construction and Engineering Private Limited (Partners : Shri Ranjit Kumar & Shri Surjeet Kumar), Village : Salbonapahar, Thana : Shikaripara, Distt. : Dumka, Jharkhand (1.62 Ha).

(Proposal no.: SIA/JH/MIN/ 534333 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

ToR Application for: Proposed Capacity: 52,714Cum. / annum or 1,42,327 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Salbonapahar Stone Mine	
2	Lessee:	:	Jyoti Construction and Engineering Partner 1. Shri Ranjit Kumar, 2. Shri Surjeet Kumar	
3	Lessee Address	:	Partner 1) Shri Ranjit Kumar S/o Shri Ram Yash Roy Partner 2) Shri Surjeet Kumar S/o Shri Ram Badan Singh R/o Gram- A/3 Vivekanand Park Lane A, S.E Patliputra Colony, Boring Road, Patliputra, Phulwari Patna, Dist- Bihar.	
4	Lease Area	:	1.62 Ha	
5	Type of Land	:	Non Forest Raiyati Land	
6	Project Cost	:	Capital Cost: Rs. 102.69 Lakhs	Recurring Cost: Rs. 12 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 8.713 Lakhs	Recurring Cost: Rs. 5.854 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 1,83,076 cum	Tonnes: 4,94,306 tons
10	Mine Life	:	5 years.	
11	Man power	:	27 Person	
12	Water Requirement	:	7 KLD (Drinking: 0.405 KLD, Dust Suppression: 1.608 KLD, Plantation: 4.560 KLD)	
13	Water Source	:	From Nearby villages tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No	
16	Nearest Water Body	:	Brahmani River flowing East to West at 6.64 km North Direction	

17	Nearest Habitation	:	Salbonapahar Village – 0.525 Km in NW Direction
18	Nearest Rail Station	:	Pakdaha Harinsing Railway Station at aerial distance of 6 km at North direction.
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 92 km at North West direction.
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Dumka. letter no.- 2238, dated 29/08/2023
21	Road & Highways	:	The distance of Approach Road is 402m, after that, this road connects to NH-114A (Dumka-Rampurhat road), at 6.8 km at NW Direction.
22	Monitoring Period	:	March 2025 to May 2025
23	Cluster Detail	:	DMO, Dumka vide memo no – 371/M, dated 10/02/2025 certified that 14 other mining lease (7.27 Acre, 4.01 Acre, 7.39 Acre, 6.94 Acre, 7.00 Acre, 5.10 Acre, 3.80 Acre, 5.78 Acre, 5.80 Acre, 4.62 Acre, 7.34 Acre, 1.98 Acre, 4.66 Acre & 5.71 Acre) exists within 500 meters radius from proposed project site and total area is 81.41 Acres.

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 11' 06.00853406" N	087° 33' 55.23609945" E
2	24° 11' 06.75234626" N	087° 33' 55.53324826" E
3	24° 11' 07.49615826" N	087° 33' 55.83039805" E
4	24° 11' 08.16934792" N	087° 33' 55.93653974" E
5	24° 11' 08.82981776" N	087° 33' 56.03638152" E
6	24° 11' 09.09345872" N	087° 33' 56.03540119" E
7	24° 11' 09.12117914" N	087° 33' 57.48894234" E
8	24° 11' 09.13597499" N	087° 33' 58.39482896" E
9	24° 11' 09.00785758" N	087° 33' 59.23880369" E
10	24° 11' 08.73651884" N	087° 34' 00.39116935" E
11	24° 11' 08.64757333" N	087° 34' 01.41879435" E
12	24° 11' 08.55862591" N	087° 34' 02.44641891" E
13	24° 11' 07.93105560" N	087° 34' 02.44364347" E
14	24° 11' 06.71298659" N	087° 34' 02.34364297" E
15	24° 11' 06.61183307" N	087° 34' 01.71729015" E
16	24° 11' 06.31157643" N	087° 34' 01.66865598" E
17	24° 11' 05.98168262" N	087° 34' 01.51072145" E
18	24° 11' 06.17100047" N	087° 34' 00.87109745" E
19	24° 11' 06.39793346" N	087° 33' 59.93437958" E
20	24° 11' 05.65263826" N	087° 33' 59.77756826" E
21	24° 11' 05.05338665" N	087° 33' 59.62140243" E
22	24° 11' 05.42835893" N	087° 33' 58.37216022" E
23	24° 11' 05.59009236" N	087° 33' 58.36150223" E

24	24° 11' 06.13739709" N	087° 33' 58.46057825" E
25	24° 11' 06.55008007" N	087° 33' 58.57650659" E
26	24° 11' 06.70032915" N	087° 33' 57.89137130" E
27	24° 11' 06.85057739" N	087° 33' 57.20623554" E
28	24° 11' 05.87237946" N	087° 33' 56.78775201" E
29	24° 11' 05.94045730" N	087° 33' 56.01192586" E

LAND DETAILS

Khata no.	Plot no.
10, 28, 33, 19 & 13	267 (P), 268 (P), 270 (P), 271 (P) & 273 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide memo no. 1203/M, dated 19.10.2024.
2	CO	:	The CO, Shikaripara vide letter no. 1130/Ra., dated 11.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 371/M, dated 10.02.2025 certified that 05 LoI (6.94 Acre, 5.80 Acre, 1.98 Acre, 4.66 Acre & 5.71 Acre) and 09 other mining lease area (7.27 Acre, 4.01 Acre, 7.39 Acre, 7.00 Acre, 5.10 Acre, 3.80 Acre, 5.78 Acre, 4.62 Acre & 7.34 Acre) exists within 500 meters radius from proposed project site and total area is 81.41 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2044, dated 06.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 2838, dated 29.08.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dumka District (Page no. 286 & Sl. No. 32).
7	Gram Sabha	:	Gram Sabha conducted on 06.08.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 101/M, dated 17.01.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and

			affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	0.970 Ha	Life of Mine – 5year
3	Waste Generation	:	22984 cum O.B (During Mine Plan Period)	
4	Stripping Ratio	:	1:0.04	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	258m–251m AMSL	
8	Ground Level Elevation	:	251m AMSL	
9	Ultimate Pit Depth	:	230 m AMSL	
10	Water Table	:	Collar Height - 216.07m AMSL (During Post Monsoon – 212.55m AMSL During Pre Monsoon – 208.02m AMSL)	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	42.76kg Nitro mix explosives/day (Sourced from licenced vendors)	
13	Diesel/Fuel requirement	:	HSD – 274liters / day (82.2 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable 95%	T.F.	Tonnes	Cum
1st	38308	2.7	103431	22984
2nd	27649	2.7	74652	0
3rd	25259	2.7	68198	0
4th	39148	2.7	105699	0
5th	52714	2.7	142327	0
Total	**183076**	2.7	**494306**	**22984**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining	0.000	0.970	Water body

	Activities			
2	Dumping	0.000	0.0749	Plantation -
3	Garland drain	0.000	0.0318	Included within Safety Zone
4	Settling Tank	0.000	0.1081	-
5	Safety Zone	0.000	0.467	Plantation
Total		1.62	1.62	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety Zone		0.541 Ha	866
2	Dumping		0.074 Ha	118
3	Along Approach Road		402m	536
TOTAL				**1520**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	48,975	-
3	Plantation 536 X 800 = Rs 4,28,800 (Gabion Plantation along approach road) 984 X 400 = 3,93,600 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	8,22,400	82,240

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**8,71,375**	**5,85,460**

Environment Monitoring Programmed

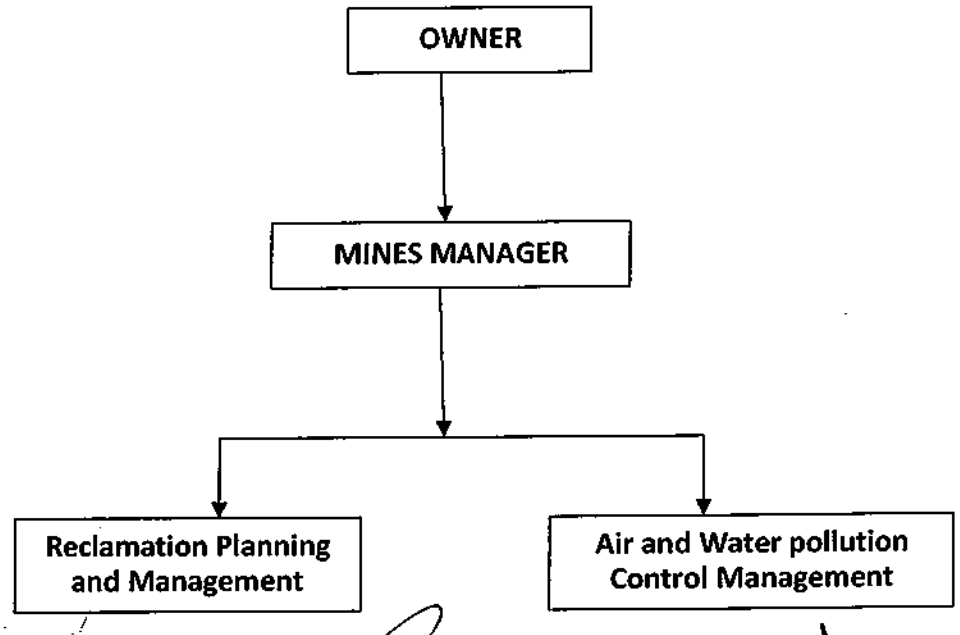
SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Baseline Monitoring Period: March, 2025 to May, 2025.

Solid Waste Management

22984cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk
during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to

ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
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- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
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i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

i. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

****

14. Salbonapahar Stone Mine of M/s Jyoti Construction and Engineering Private Limited (Partners : Shri Ranjit Kumar & Shri Surjeet Kumar), Village : Salbonapahar, Thana : Shikaripara, Distt. : Dumka, Jharkhand (2.808 Ha).

(Proposal no.: SIA/JH/MIN/ 533470 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

ToR Application for: Proposed Capacity: 90,001Cum. / annum or 2,43,003 TPA.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Salbonapahar Stone Mine
2	Lessee:	:	M/s Jyoti Construction and Engineering Pvt. Ltd Proponent: 1. Shri Ranjit Kumar, 2. Shri Surjeet Kumar
3	Lessee Address	:	M/s Jyoti Construction and Engineering Private Limited. Proponent 1: Shri Ranjit Kumar, S/o Shri Ram Yash Roy R/o A/3 Vivekanand Park Lane A, S.E Patliputra Colony, Boring Road Patna, Patliputra, Phulwari Patna, Bihar, 800013. Proponent 2: Shri Surjeet Kumar, S/o Ram Bandan Singh R/o A/3 Vivekanand Park Lane A, S.E Patliputra Colony, Boring Road Patna, Patliputra, Phulwari Patna, Bihar, 800013
4	Lease Area	:	2.808 Ha
5	Type of Land	:	Non-Forest Raiyati Land

6	Project Cost		Capital Cost: Rs. 132.39 Lakhs	Recurring Cost: Rs. 26.74 Lakhs
7	EMP Budget	:	Capital Cost: Rs. 10.55 Lakhs	Recurring Cost: Rs. 5.39 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 4,03,470cum	Tonnes: 10,89,368tons
10	Mine Life	:	5 years.	
11	Man power	:	28Person	
12	Water Requirement	:	7.60 KLD (Drinking: 0.42 KLD, Dust Suppression: 1.41KLD, Plantation: 5.757KLD)	
13	Water Source	:	From Nearby villages tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	Yes 60 TPH	
16	Nearest Water Body	:	Brahmani River flowing East to West at 6.58 km North Direction	
17	Nearest Habitation	:	Salbonapahar Village ~~– 0.408 Km~~ in West Direction	
18	Nearest Rail Station	:	Pakdaha Harinsing Railway Station at aerial distance of 5 km at North direction.	
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 92 km at North West direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Dumka. letter no.- 3441, dated 09/11/2023	
21	Road & Highways	:	Approach Road is 353 m & NH-114A (Dumka-Rampurhat road), at 6.16 km at NW Direction.	
22	Baseline Monitoring Period	:	March, 2025 to May, 2025	
23	Cluster Details	:	DMO, Dumka vide memo no – 332/M, dated 10/02/2025 certified that 14 other mining lease (4.63 Acre, 3.40 Acre, 6.12 Acre, 5.40 Acre, 3.69 Acre, 6.16 Acre, 4.62 Acre, 1.98 Acre, 4.01 Acre, 5.71 Acre, 7.00 Acre, 7.39 Acre, 4.01 Acre & 7.27 Acre) exists within 500 meters radius from proposed project site and total area is 78.33 Acres.	

CO-ORDINATES

Point Name	Longitude	Latitude
1	087° 34' 09.55847928" E	24° 11' 22.66028411" N
2	087° 34' 09.48683970" E	24° 11' 22.26236785" N
3	087° 34' 09.02294992" E	24° 11' 21.87353124" N
4	087° 34' 08.99766104" E	24° 11' 21.09582691" N
5	087° 34' 08.68017741" E	24° 11' 20.89672058" N
6	087° 34' 08.57406704" E	24° 11' 20.76692921" N
7	087° 34' 08.41006120" E	24° 11' 20.71079088" N

8	087° 34' 07.40371754" E	24° 11' 21.09176188" N
9	087° 34' 06.39737573" E	24° 11' 21.47273104" N
10	087° 34' 06.33675683" E	24° 11' 21.75336746" N
11	087° 34' 05.46116110" E	24° 11' 21.81297935" N
12	087° 34' 05.20294491" E	24° 11' 21.82158268" N
13	087° 34' 05.21914023" E	24° 11' 22.95640688" N
14	087° 34' 05.23621927" E	24° 11' 24.15307005" N
15	087° 34' 05.25462912" E	24° 11' 25.44288185" N
16	087° 34' 05.27651005" E	24° 11' 26.97612214" N
17	087° 34' 05.29839125" E	24° 11' 28.50936559" N
18	087° 34' 05.48112896" E	24° 11' 28.42306112" N
19	087° 34' 06.16194943" E	24° 11' 28.06373623" N
20	087° 34' 06.42795097" E	24° 11' 28.17383929" N
21	087° 34' 06.54436468" E	24° 11' 28.16485709" N
22	087° 34' 06.74358915" E	24° 11' 28.44826345" N
23	087° 34' 06.80259160" E	24° 11' 28.62323070" N
24	087° 34' 07.17725190" E	24° 11' 29.07089415" N
25	087° 34' 07.31342673" E	24° 11' 29.32207753" N
26	087° 34' 07.58174855" E	24° 11' 29.43003516" N
27	087° 34' 08.14568369" E	24° 11' 29.49843459" N
28	087° 34' 08.19084696" E	24° 11' 29.70336328" N
29	087° 34' 08.85724299" E	24° 11' 29.76710387" N
30	087° 34' 09.42929669" E	24° 11' 29.78539305" N
31	087° 34' 09.43753171" E	24° 11' 28.70678652" N
32	087° 34' 09.44577028" E	24° 11' 27.62817668" N
33	087° 34' 09.45491434" E	24° 11' 26.43094780" N
34	087° 34' 09.46418650" E	24° 11' 25.21705479" N
35	087° 34' 09.47433725" E	24° 11' 23.88806088" N
36	087° 34' 09.48367760" E	24° 11' 22.66476435" N

LAND DETAILS

Khata no.	Plot no.
11	147 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 972/M, dated 17.08.2024.
2	CO	:	The CO, Shikaripara vide letter no. 1331/Ra., dated 02.12.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 332/M, dated 10.02.2025 certified that 04 LoI (3.69 Acre, 1.98 Acre, 4.01 Acre & 5.71 Acre) and 10

			other mining lease area (4.63 Acre, 3.40 Acre, 6.12 Acre, 5.40 Acre, 6.16 Acre, 4.62 Acre, 7.00 Acre, 7.39 Acre, 4.01 Acre & 7.27 Acre) exists within 500 meters radius from proposed project site and total area is 78.33 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2953, dated 26.12.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 3441, dated 09.11.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dumka District (Page no. 291 & Sl. No. 54).
7	Gram Sabha	:	Gram Sabha conducted on 26.10.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 1419/M, dated 20.12.2024.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized Method	
2	Quarry Area	:	1.841 Ha	Life of Mine – 5year
3	Waste Generation	:	93829 cum O.B (During Mine Plan Period)	
4	Stripping Ratio	:	01:0.4	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	264mAMSL	
8	Ground Level Elevation	:	245m AMSL	
9	Ultimate Pit Depth	:	227 m AMSL	
10	Water Table	:	211.55m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	80.19kg Nitro mix explosives/day (Will be obtain from licence vendor)	
13	Diesel/Fuel requirement	:	HSD – 343liters / day (102.9 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum recoverable 95%	T.F.	Tonnes	Cum
1st	85779	2.7	231604	93829
2nd	90001	2.7	243003	0
3rd	82997	2.7	224091	0
4th	75896	2.7	204920	0
5th	68796	2.7	185750	0
Total	**403470**		**1089368**	**93829**

Land Use pattern

SL	Pattern	Existing Land Use (Ha)	Proposed Land Use (Ha)	Conceptual Land Use (Ha)	Area to be converted in the conceptual period.
1	Mining Activities	0.00	1.841	1.841	Water body
2	Settling Tank	0.00	0.023	0.023	-
3	Mobile Crusher	0.00	0.234	0.000	-
4	Garland drain	0.00	0.037	0.037	--
5	Dumping	0.00	0.171	0.171	Greenbelt
6	Safety Zone	0.00	0.502	0.502	Greenbelt
7	Unutilized	2.808	0.00	0.234	Greenbelt
	TOTAL	**2.808**	**2.808**	**2.808**	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Green Belt/Safety Zone		0.502 Ha	803
2	Dumping		0.405 Ha	648
3	Along Approach Road		353m	468
TOTAL				**1919**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same

to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 800 per Tanker)	--	2,40,000
2	Plantation 468 X 800 = Rs 3,74,400 (Gabion Plantation along approach road) 1451 X 400 = 580400 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	9,54800	95480
3	Fencing	1,00000	-
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point)-Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**10,54800**	**5,38,700**

Environment Monitoring Programmed

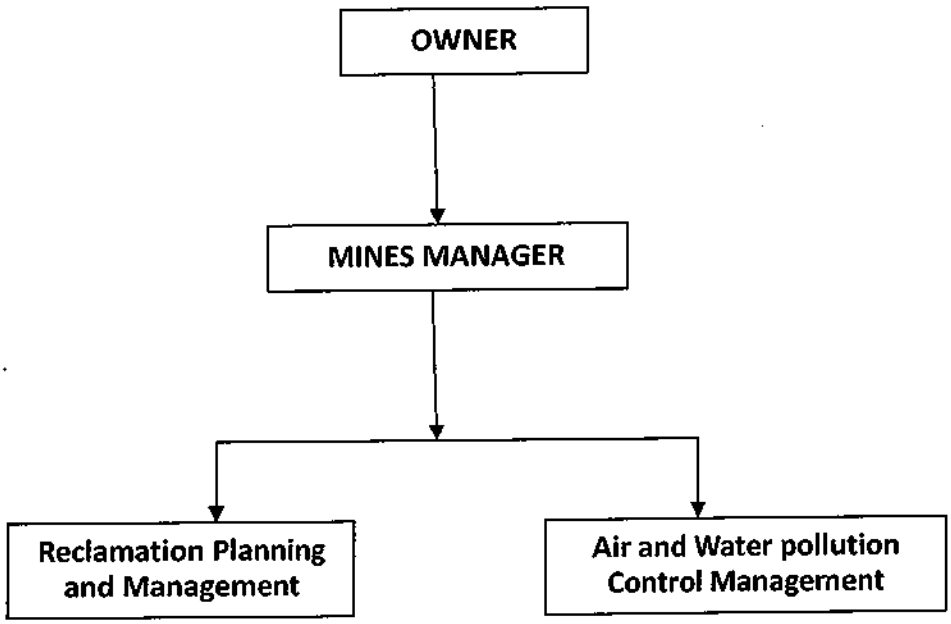
SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Baseline Monitoring Period: March, 2025 to May, 2025

Solid Waste Management

93829cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°

- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the

drill hole continuously and discharges the same in a dust collector specially provided for the purpose.

- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.

i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

****

15. Chitragaria Stone Mine of Partners : Shri Sasti Pad Mandal & Shri Shakti Prasad), Village : Chitragaria, Thana : Shikaripara (16), Distt. : Dumka, Jharkhand (1.380 Ha).

(Proposal no.: SIA/JH/MIN/ 534917 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

TOR Application for: Proposed Capacity: 52112 Cum. / 140703 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Chitragaria Stone Mine	
2	Lessee:	:	Partner 1. Shri Sasti Pad Mandal, Partner 2. Shri Sakti Prasad Pandey,	
3	Lessee Address	:	1. Shri Sasti Pad Mandal, S/o Shri Subal Chandra Mandal, R/o Vill+PO – Asanbani, Thana- Raneshwar, Dist- Dumka, 816118. 2. Shri Sakti Prasad Pandey, S/o Shri Jai Prakash Pandey, R/o Vill- Madar Gudiapara, Nishchintpur, PO- Rampurhat, Dist- Birbhum (WB), 731224.	
4	Lease Area	:	1.380Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 130.14Lakhs	Recurring Cost: Rs 21.85Lakhs
7	EMP Budget	:	Capital Cost: Rs. 6.108Lakhs	Recurring Cost: Rs. 5.543Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 206483	Tonnes: 557503
10	Mine Life	:	05 years.	
11	Man power	:	25 Person	
12	Water Requirement	:	4.202 KLD (Drinking: 0.375 KLD, Dust Suppression: 0.800 KLD, Plantation: 3.027 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Brahmani River flowing East to West at 13 km North Direction from the Mine site.	
17	Nearest Habitation	:	ChitragariaVillage –0.200 Km in SW Direction	
18	Nearest Rail Station	:	Pinargaria Railway Station at aerial distance of 11.05 km at NE direction.	
19	Nearest Air Port	:	Deoghar Airport is at aerial distance of 93 km at North West direction.	
20	Nearest Forest	:	DFO (Dumka), letter no.-488 Dated: 03.03.2025 certified that the distance of reserved / protected forest is more than 250 m from proposed project site. The battery point is a distance 750 m from notified forest.	
21	Road & Highways	:	Approach Road is 312m starts from NW side of the lease area, after that, this road connects to village road.	
22	Baseline Monitoring Period	:	March, 2025 to May, 2025	
23	Cluster Details	:	DMO (Dumka) Letter no.- 616/M Dated- 21.04.2025 certified that,	

			03 other mining lease area (5.20 Acre, 3.50 Acre & 2.88 Acre) exists within 500 m radius from the proposed project site & Total lease area is 14.99 Acre.

CO-ORDINATES

Point Name	Latitude	Longitude
1	24° 08' 11.73701438" N	087° 34' 10.56401882" E
2	24° 08' 12.25197328" N	087° 34' 10.82472833" E
3	24° 08' 12.08929066" N	087° 34' 11.13122386" E
4	24° 08' 11.85727307" N	087° 34' 11.64001177" E
5	24° 08' 11.58219624" N	087° 34' 12.25322446" E
6	24° 08' 11.37161258" N	087° 34' 12.73553329" E
7	24° 08' 11.14591028" N	087° 34' 13.18622361" E
8	24° 08' 10.90194470" N	087° 34' 14.03704628" E
9	24° 08' 10.66134426" N	087° 34' 14.80318608" E
10	24° 08' 10.45436082" N	087° 34' 15.13771355" E
11	24° 08' 10.11137198" N	087° 34' 15.16442185" E
12	24° 08' 09.90385076" N	087° 34' 15.23490725" E
13	24° 08' 09.59696629" N	087° 34' 15.27286906" E
14	24° 08' 09.29265078" N	087° 34' 15.27683249" E
15	24° 08' 09.30958566" N	087° 34' 15.67035995" E
16	24° 08' 09.59152409" N	087° 34' 15.94559628" E
17	24° 08' 09.58518982" N	087° 34' 16.07522971" E
18	24° 08' 09.67769019" N	087° 34' 16.13790620" E
19	24° 08' 09.98243794" N	087° 34' 16.14963745" E
20	24° 08' 09.69206913" N	087° 34' 16.75032668" E
21	24° 08' 09.43038631" N	087° 34' 17.32000275" E
22	24° 08' 09.14250314" N	087° 34' 17.89215521" E
23	24° 08' 08.86474843" N	087° 34' 18.30347994" E
24	24° 08' 08.50979247" N	087° 34' 18.98171975" E
25	24° 08' 08.37243936" N	087° 34' 19.26341143" E
26	24° 08' 08.22716268" N	087° 34' 18.99042568" E
27	24° 08' 08.30785512" N	087° 34' 18.60385950" E
28	24° 08' 08.00792465" N	087° 34' 18.31474474" E
29	24° 08' 07.39165630" N	087° 34' 19.17442367" E
30	24° 08' 06.77538664" N	087° 34' 20.03410030" E
31	24° 08' 06.58003819" N	087° 34' 20.55579230" E
32	24° 08' 06.05412633" N	087° 34' 20.52287020" E
33	24° 08' 05.48818555" N	087° 34' 20.40881601" E
34	24° 08' 05.80370162" N	087° 34' 19.50062518" E
35	24° 08' 05.56815208" N	087° 34' 19.28319244" E
36	24° 08' 05.61408628" N	087° 34' 18.85591697" E
37	24° 08' 06.14738187" N	087° 34' 18.53524628" E
38	24° 08' 06.35961069" N	087° 34' 18.74890280" E
39	24° 08' 06.59463801" N	087° 34' 19.07509044" E
40	24° 08' 06.99563851" N	087° 34' 18.95452398" E
41	24° 08' 07.17329248" N	087° 34' 18.39522421" E

42	24° 08' 06.95815710" N	087° 34' 18.28479852" E
43	24° 08' 06.89019970" N	087° 34' 18.18719407" E
44	24° 08' 06.81967164" N	087° 34' 17.32753589" E
45	24° 08' 06.33795040" N	087° 34' 17.21499780" E
46	24° 08' 06.34571466" N	087° 34' 16.88403554" E
47	24° 08' 06.41304555" N	087° 34' 16.34185096" E
48	24° 08' 06.10711637" N	087° 34' 16.34779772" E
49	24° 08' 05.89712139" N	087° 34' 16.42763878" E
50	24° 08' 05.70506172" N	087° 34' 16.40659037" E
51	24° 08' 05.69329021" N	087° 34' 15.90277687" E
52	24° 08' 05.64279180" N	087° 34' 15.58371598" E
53	24° 08' 05.78036956" N	087° 34' 15.56838327" E
54	24° 08' 05.95139804" N	087° 34' 14.95484944" E
55	24° 08' 05.97120992" N	087° 34' 14.95639003" E
56	24° 08' 06.45688094" N	087° 34' 15.03708075" E
57	24° 08' 06.94114700" N	087° 34' 15.15872996" E
58	24° 08' 07.21870783" N	087° 34' 15.21174721" E
59	24° 08' 07.29227316" N	087° 34' 14.90272430" E
60	24° 08' 07.39809095" N	087° 34' 14.61158796" E
61	24° 08' 07.58992958" N	087° 34' 14.69961587" E
62	24° 08' 07.82928319" N	087° 34' 14.77247088" E
63	24° 08' 08.19429200" N	087° 34' 14.79157245" E
64	24° 08' 08.23065864" N	087° 34' 14.37515354" E
65	24° 08' 08.16693012" N	087° 34' 14.22202387" E
66	24° 08' 08.29887670" N	087° 34' 13.94817589" E
67	24° 08' 08.38070201" N	087° 34' 13.58084669" E
68	24° 08' 08.44704045" N	087° 34' 13.18893527" E
69	24° 08' 08.39632577" N	087° 34' 13.18764741" E
70	24° 08' 08.34186953" N	087° 34' 12.62199632" E
71	24° 08' 08.34518551" N	087° 34' 12.25641140" E
72	24° 08' 09.02554719" N	087° 34' 11.79727947" E
73	24° 08' 09.70590850" N	087° 34' 11.33814621" E
74	24° 08' 09.71123808" N	087° 34' 11.33018732" E
75	24° 08' 10.34274746" N	087° 34' 10.32329895" E
76	24° 08' 10.35094849" N	087° 34' 10.31086725" E
77	24° 08' 10.93522186" N	087° 34' 09.42525508" E
78	24° 08' 11.39880124" N	087° 34' 09.69832387" E
79	24° 08' 11.91182680" N	087° 34' 10.06777825" E

LAND DETAILS

Khata no.	Plot no.
46 & 53	251, 252, 253, 254, 255, 256, 257, 258, 264, 265 & 266

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 534/M, dated 20.03.2025.
2	CO	:	The CO, Shikaripara vide letter no. 200/Ra., dated 10.03.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 616/M, dated 21.04.2025 certified that 03 LoI (5.20 Acre, 3.50 Acre & 2.88 Acre) exists within 500 meters radius from proposed project site and total area is 14.99 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 402, dated 08.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 488, dated 03.03.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has been certified vide memo no. 551/M, dated 27.03.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 318, Sl. no. 87).
7	Gram Sabha	:	Gram Sabha conducted on 09.02.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 613/M, dated 21.04.2025.
9	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	0.914Ha	Life of Mine – 05year
3	Waste Generation	:	27010 cum	
4	Stripping Ratio	:	1:0.05	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	95m–92 m AMSL	
8	Ground Level Elevation	:	92 AMSL	
9	Ultimate Working	:	69m AMSL	

	Depth		
10	Water Table	:	63m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	42.77 kg Nitro mix explosives. will be obtain from licenced Vendors
13	Diesel/Fuel requirement	:	HSD –342.6 litters / day (1027.8 KL/year)

Production Details

Year	Production of Stone / Year		Removal of O.B.
	Cum recoverable 95%	Tonnes	Cum
1st	35288	95277	13685
2nd	25674	69319	13325
3rd	41952	113270	0
4th	51457	138933	0
5th	52112	140703	0
Total	**206483**	**557503**	**27010**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing land use pattern in (Ha.)	Proposed Land use for current plan period (Ha.)	Land used at the conceptual stage i.e. end of mine life in (Ha.)	Area to be converted in the conceptual period.
1	Mining Activities	-	0.914	0.914	Water body
2	Dumping	-	0.060	0.060	Plantation
3	Settling Tank	-	0.003	0.003	-
5	Safety Zone	-	0.403	0.403	Plantation
6	Unutilized	1.380	0.000	0.000	-
Total		**1.380**	**1.380**	**1.380**	-

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No of Trees
1	Safety Zone/ Dumping/ Offices/ Store etc.		0.463 Ha	741
2	Along Approach Road		200m	268
TOTAL				**1009**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **Budget for Environmental Management**

Sl. No.	**Particulars**	**Capital Cost in Rs.**	**Recurring Cost in Rs. per year**
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	1,00,000	
3	Plantation 268 X 800 = Rs 2,14,400(Gabion Plantation along approach road) 647 X 400 = Rs 2,96,400 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	5,10,800	51080
4	Environmental Monitoring (One Day Monitoring) · Ambient Air 24 hrs (3 point) -Rs.27,270 · Ground Water (2 point) -Rs.12,420 · Noise 24 hrs (3 point) -Rs.21,000 · Soil (3 point) -Rs.40,920 Total -Rs. 1,01,610 (Per Season) At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220 Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022	--	2,03,220

Total	Rs 6,10,800	Rs 5,54,300

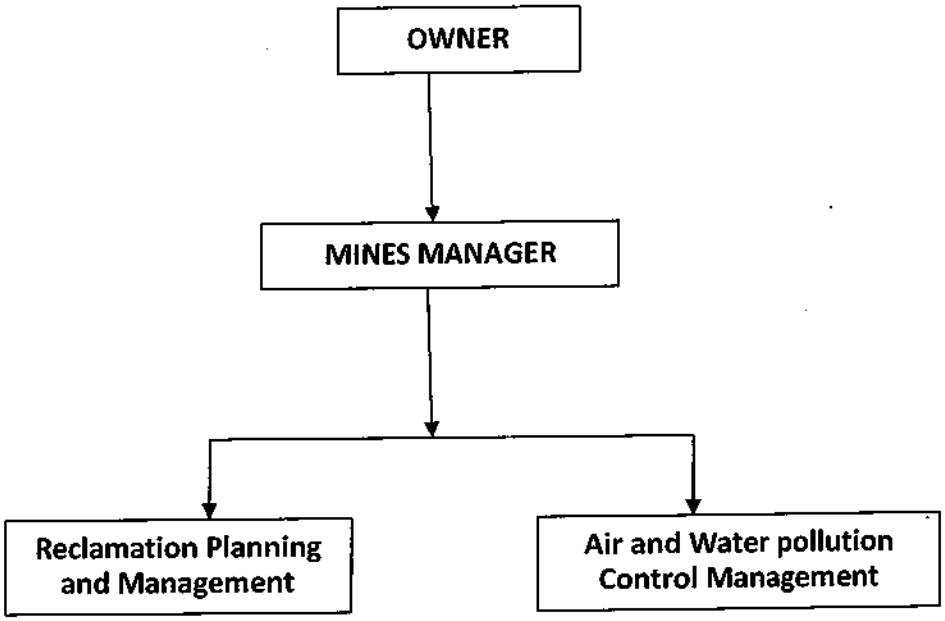
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

27010cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench

- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.

- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.

c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

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16. **Kakbita (Jhapsi) Stone Mine of M/s Maa Bindwasini Stone (Partners : Shri Sanjay Kumar Singhania & Smt. Rashmi Singh), Village : Kakbita (Jhapsi), Thana : Taljhari, Distt. : Sahibganj, Jharkhand (2.975 Ha).**

(Proposal no.: SIA/JH/MIN/ 534407 /2025)

Name of the consultant : Sathi Planners Pvt. Ltd., Ranchi, Jharkhand.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

TOR Application for: Proposed Capacity: 111720 Cum. / 312816 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Kakbita (Jhapsi) Stone Mine Deposit	
2	Lessee:	:	M/S MAA BINDWASINI STONE Partner 1. Shri Sanjay Kumar Singhania, Partner 2. Smt. Rashmi Singh	
3	Lessee Address	:	M/S Maa Bindwasini Stone. Partner 1. Shri Sanjay Kumar Singhania, S/o Late Sitaram Singhania, R/o Vill+PO+PS- Barhait, Sahibganj. Partner 2. Smt. Rashmi Singh, W/o Shri Vikash Singh, R/o Road no- 27, New Kalimati Road, Sakshi, Jamshedpur, East Singhbhum.	
4	Lease Area	:	2.975 Ha	
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost		Capital Cost: Rs. 130.19 Lakhs	
7	EMP Budget	:	Capital Cost: Rs. 6.85 Lakhs	Recurring Cost: Rs. 5.61 Lakhs
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 957740 cum	Tonnes: 2681672 tons
10	Mine Life	:	10 years.	
11	Man power	:	32 Person	
12	Water Requirement	:	4.869 KLD (Drinking: 0.480 KLD, Dust Suppression: 0.972 KLD, Plantation: 3.417 KLD	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	20 KVA D.G. Set proposed	
15	Crusher	:	Yes 200 TPH	
16	Nearest Water Body	:	Ganga River flowing East to West at 6.78 km North Direction from the Mine site.	
17	Nearest Habitation	:	Goghi Village – 0.84 Km in SE Direction	
18	Nearest Rail Station	:	Karanpurato is at Aerial distance of 3.02 km in SE direction.	
19	Nearest Air Port	:	Deoghar Airport is at Aerial distance of 124 km SW direction.	
20	Nearest Forest	:	More than 250 m, as per Division Forest Officer, Sahibganj. letter	

			no.-1408 Dated- 29/06/2024
21	Road & Highways	:	The distance of Approach Road is 243m, after that, this road connects to village road. The village road continues for 2.97 km and after this the road connects to MDR (Taljhari to Maharajpur road).
22	Baseline Monitoring Period	:	March, 2025 to May, 2025
23	Cluster Details	:	DMO Sahibganj Letter No – 250/M Dated- 11/02/2025 certified that other01 mining lease area (7.20 Acre) exists within 500 meters radius from proposed project site total area is 14.55 ha.

CO-ORDINATES

Point Name	Latitude	Longitude
1	25° 09' 17.21976275" N	087° 42' 26.40419409" E
2	25° 09' 16.93602035" N	087° 42' 27.25571239" E
3	25° 09' 16.12547412" N	087° 42' 29.02324072" E
4	25° 09' 15.00541982" N	087° 42' 28.38791087" E
5	25° 09' 13.88536266" N	087° 42' 27.75258107" E
6	25° 09' 12.81992320" N	087° 42' 27.14823346" E
7	25° 09' 11.79937416" N	087° 42' 26.56935040" E
8	25° 09' 10.77410672" N	087° 42' 25.98779229" E
9	25° 09' 11.41359456" N	087° 42' 25.13159532" E
10	25° 09' 11.88712200" N	087° 42' 24.39499690" E
11	25° 09' 12.58433698" N	087° 42' 23.49845534" E
12	25° 09' 13.32681836" N	087° 42' 22.54370463" E
13	25° 09' 14.04885586" N	087° 42' 21.61524097" E
14	25° 09' 14.68627348" N	087° 42' 20.79558825" E
15	25° 09' 15.32369017" N	087° 42' 19.97593553" E
16	25° 09' 16.46943129" N	087° 42' 20.70157543" E
17	25° 09' 17.61516942" N	087° 42' 21.42721533" E
18	25° 09' 17.46996410" N	087° 42' 21.66657087" E
19	25° 09' 17.47809522" N	087° 42' 21.79532792" E
20	25° 09' 17.38323216" N	087° 42' 22.19357648" E

21	25° 09' 17.38492615" N	087° 42' 22.45071629" E
22	25° 09' 17.29175706" N	087° 42' 22.73143661" E
23	25° 09' 17.12659362" N	087° 42' 23.68120701" E
24	25° 09' 17.11812370" N	087° 42' 24.40640116" E
25	25° 09' 17.19858795" N	087° 42' 25.20645407" E
26	25° 09' 17.33834160" N	087° 42' 25.84743213" E

LAND DETAILS

Khata no.	Plot no.
14 & 27	212 (P) & 234 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 249/M, dated 11.02.2025.
2	CO	:	The CO, Taljhari vide letter no. 458, dated 18.07.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 250/M, dated 11.02.2025 certified that 01 LoI (7.20 Acre) exists within 500 meters radius from proposed project site and total area is 14.55 Acre.
4	DFO Wild Life	:	DFO – cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1678, dated 30.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1408, dated 29.06.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has been certified vide memo no. 643/M, dated 09.04.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 192).
7	Gram Sabha	:	Gram Sabha conducted on 08.07.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 381/M, dated 28.02.2025.

9	Grid Certificate	:	DMO, Sahibganj vide memo no. 253/M, dated 11.02.2025 certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
10	Qualified Person	:	Shri Malay Kumar Mukhopadhyay was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Mechanized Method	
2	Quarry Area	:	2.220 Ha	Life of Mine – 10 years
3	Waste Generation	:	43960 cum	
4	Stripping Ratio	:	1:0.03	
5	Working Days	:	300	
6	Benches: size	:	6 m x 6 m	
7	Elevation of Mine	:	240 m – 155 m AMSL	
8	Ground Level Elevation	:	155 AMSL	
9	Ultimate Working Depth	:	131 m AMSL	
10	Water Table	:	118m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	105.336 kg Nitro mix explosive will be obtain from licenced Vendors	
13	Diesel/Fuel requirement	:	HSD –370.32 liters / day (1110.96 KL/year)	

Production Details

Year	Production of Stone / Year			Removal of O.B.
	Cum	T.F.	Tonnes	Cum
1st	81340	2.8	227752	13160
2nd	105280	2.8	294784	7420
3rd	108360	2.8	303408	7840
4th	111720	2.8	312816	7280
5th	107940	2.8	302232	8260
Total	**514640**		**1440992**	**43960**

Land Use pattern

Sl. No.	Pattern of Utilization	Present/Existing Land Use Pattern (in Ha.)	Proposed Land Use for Current Plan Period (Ha.)	Land to be Used in Remaining Period of the Life of the Mine (Ha.)	Land Used at the Conceptual Stage (Ha.)	Area to be Converted in the Conceptual Period
1	Mining Activities	0	1.535	0.686	2.22	Water body
7	Safety	0	0.509	0	0.509	Plantation

	Zone					
8	Crusher	0	0.246	0	0.246	Plantation
9	Unutilized	2.975	0.686	0	0	-
Total		**2.975**	**2.975**	**0.686**	**2.975**	

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Safety Zone & Crusher	0.755 Ha	1208
2	Along Approach Road	243 m	324
TOTAL			**1532**

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Budget for Environmental Management

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Fencing	1,00,000	
3	Plantation 324 X 800 = Rs 2,59,200(Gabion Plantation along approach road) 1532 X 400 = Rs 6,12,800 (Plantation within lease area), (also includes Fertilizer, Pesticides, Maintenance)	8,72,000	58,520
4	Environmental Monitoring (One Day Monitoring) · Ambient Air 24 hrs (3 point) -Rs.27,270 · Ground Water (2 point) -Rs.12,420 · Noise 24 hrs (3 point) -Rs.21,000 · Soil (3 point) -Rs.40,920 Total -Rs. 1,01,610 (Per Season) At least two seasons in a Year -Rs. 1,01,610 x 2 = Rs. 2,03,220 Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022	--	2,03,220

Total	Rs 9,72,000	Rs 5,61,740

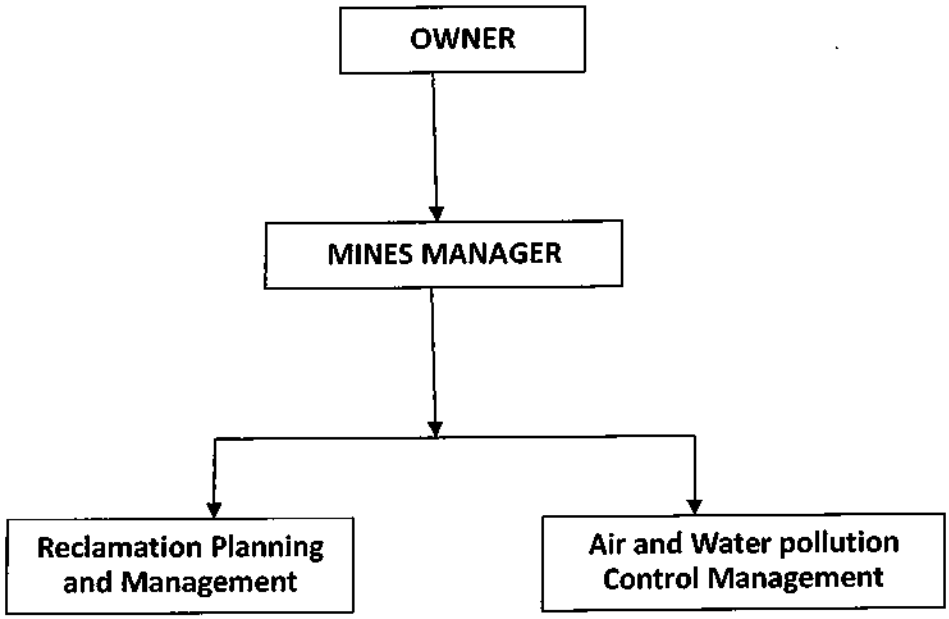
Environment Monitoring Programmed

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	6 Monthly
2.	Water	2 stations	6 Monthly
3.	Noise	3 stations	6 Monthly
4.	Soil	3 Station	6 Monthly

Solid Waste Management

43960 cum. O.B. will be used in maintenance of mine road and left over O.B. will be used for backfilling.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at quarry floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.

- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul Road by using water Tankers.
- Regular repair of Haul Road
- All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material,	Very Unlikely	Minor	20

		Exposure to Dust			
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.

- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.

- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an

interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g.reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

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17. **Bagcha Mako Stone Deposit by M/s Pindari Enterprises (Prop. : Md. Jeeshan Kareem), Village : Bagcha Mako, Thana : Taljhari, Distt. : Sahibganj, Jharkhand (2.630 Ha).**

(Proposal no.: SIA/JH/MIN/ 525151 /2025)

Name of the consultant : Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity: 1,00,775 Cum Per Annum or 2,72,095 Ton Per Annum.

Project and Location Details:

S. No	Parameter		Details	
1	Project Name	:	Bagcha Mako Stone Deposit M/s Pindari Enterprises	
2	Proprietor	:	Md Jeeshan Kareem	
3	Lessee Address	:	Village-Anjuman Nagar, Po-Mahadevganj, Ps-Jirwabadi District-Sahibganj, Jharkhand	
4	Lease Area	:	Acres: 6.50	Ha:2.630
5	Type of Land	:	Raiyati Land	
6	Project Cost	:	55.00 Lakhs	
7	EMP Budget	:	Capital: 20.27Lakhs	Recurring: 3.5Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	9,82,224.07Cum	26,52,005 Tonnes
10	Mine Life	:	10 Years	
11	Man power	:	19 persons	
12	Water Requirement	:	Total water requirement is about 10.665 KLD= 0.665 KLD (Drinking & Domestic Uses) + 2.0 (Plantation) KLD + 8.0 KLD (Dust Suppression).	
13	Water Source	:	The drinking water will be available from nearby village by tractor tank manually by labors at the site.	
14	DG Set / power	:	50 KVA (Temporary setup for Backup)	
15	Crusher	:	No	
16	Nearest Water Body	:	Pond is about 3.20km in E direction.	
17	Nearest Habitation	:	Habitationnear by about 1.15 km in NWN direction.	
18	Nearest Rail Station	:	Taljhari railway station at 6.48 Km in NE Direction	
19	Nearest Airport	:	Purnia Airport is about 82.0km in NWN direction.	
20	Nearest Forest	:	S.no. / Protected Forest / Distance / Direction	
			1. / MasberaP.F. / 2.17 / E	
			2. / Radha KishunpurP.F. / 2.81 / ESE	

21	Road & Highways	:	NH-33 Sahibganj-Barharwa road at 9.0 km.

CO-ORDINATES

Pillar No.	Toposheet No. 72 O/12 or G45P12	
	Latitude	Longitude
1	25°3'30.070"N	87°41'2.451"E
2	25°3'27.949"N	87°41'5.894"E
3	25°3'25.547"N	87°41'4.342"E
4	25°3'22.144"N	87°41'2.145"E
5	25°3'23.181"N	87°40'58.021"E
6	25°3'26.156"N	87°40'59.934"E

LAND DETAILS

Khata no.	Plot no.
08	72 (P)
03	73 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1019/M, dated 26.09.2024.
2	CO	:	The CO, Taljhari vide letter no. 99, dated 15.02.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1440/M, dated 21.12.2024 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribagh vide letter no. 2062, dated 28.11.2021 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 2137, dated 28.10.2021 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 23, Page no. 163).
7	Gram Sabha	:	Gram Sabha conducted on 30.01.2021.

8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 504, dated 19.03.2025.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 335/M, dated 19.02.2025 certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
10	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

WORKING DETAILS

1	Mining Method	:	OCM &Semi Mechanised	
2	Lease Area	:	6.50 ACRES / 2.630HA	Life of Mine – 10 years
3	Waste Generation	:	5 years–59676 Cum	
4	Stripping Ratio(t/m^3)	:	1:0.14	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	335 AMSL	
8	Lowest Elevation of lease Area	:	300AMSL	
9	Ultimate Working Depth	:	279 AMSL (From Ground Surface)	
10	Water Table	:	250 AMSL (29BGL)	
11	Topography of Mine	:	Hillocks area	
12	Explosive Requirement	:	21.26 Mt/kg (External Agency)	
13	Diesel/Fuel requirement	:	332 Litres per day	

PRODUCTION DETAILS

Year	Productionof stoneinCum	Productionofstone inTonnes	Overburdenin cum	Intercalated wasteinCum	TotalWaste inCum
1st Year	92226	249010	29880	4854	34734
2ndYear	94620	255474	3480	4980	8460
3rdYear	98040	264708	840	5160	6000
4thYear	100776	272095	0	5304	5304
5thYear	98382	265631	0	5178	5178
Total	**484044**	**1306919**	**34200**	**25476**	**59676**

LAND USE

LandUtilization	Existing Landuse (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	NIL	1.447	2.137ha (area shall be leftaswaterreservoir).
WasteDump	NIL	0.343	Nil (waste dump to be removed and backfilled)

Road	NIL	0.008	0.00
SafetyZone Plantation	NIL	0.493	0.493
Total	**0.000**	**2.291**	**2.630**
UnusedArea	**2.630**	**0.339**	**0.0**
TotalLeaseArea	**2.630**		

ENVIRONMENT MANAGEMENT

Green Belt Development

The plantation will be done under the Campaign "Ek Ped Ma Ke Naam". Total number of saplings to be planted in the entire plan period will be 2061 saplings. Green Belt area will be developed along the periphery of mining lease area and haulage route, in consultation with local Authority (Plantation density considered is 789 plants on 0.493 Ha area or 2.5m X 2.5m grid pattern).

Year	Place of Plantation	Spacing b/w plants	Total No. of Plants	Area Cover in Square Meters	Total Area in Ha.	Species
1st	Safety Zone	2.5 x 2.5	790	4930	0.493	Pipal Bargad Palash Fruit Bearing Trees Mango, Jackfruit, Guava, Jamun
	Haul Road	3.0 x 3.0	264	200Meter Approach Rd. Two row both side 200/3=66*4=264Plants		
2nd	Care&Protection	---	---	---	---	
3rd	Care &Protection	---	---	---	---	
4th	Care &Protection	---	---	---	---	
5th	Care &Protection	---	---	---	---	
Total			**1054**	**4930**	**0.493**	

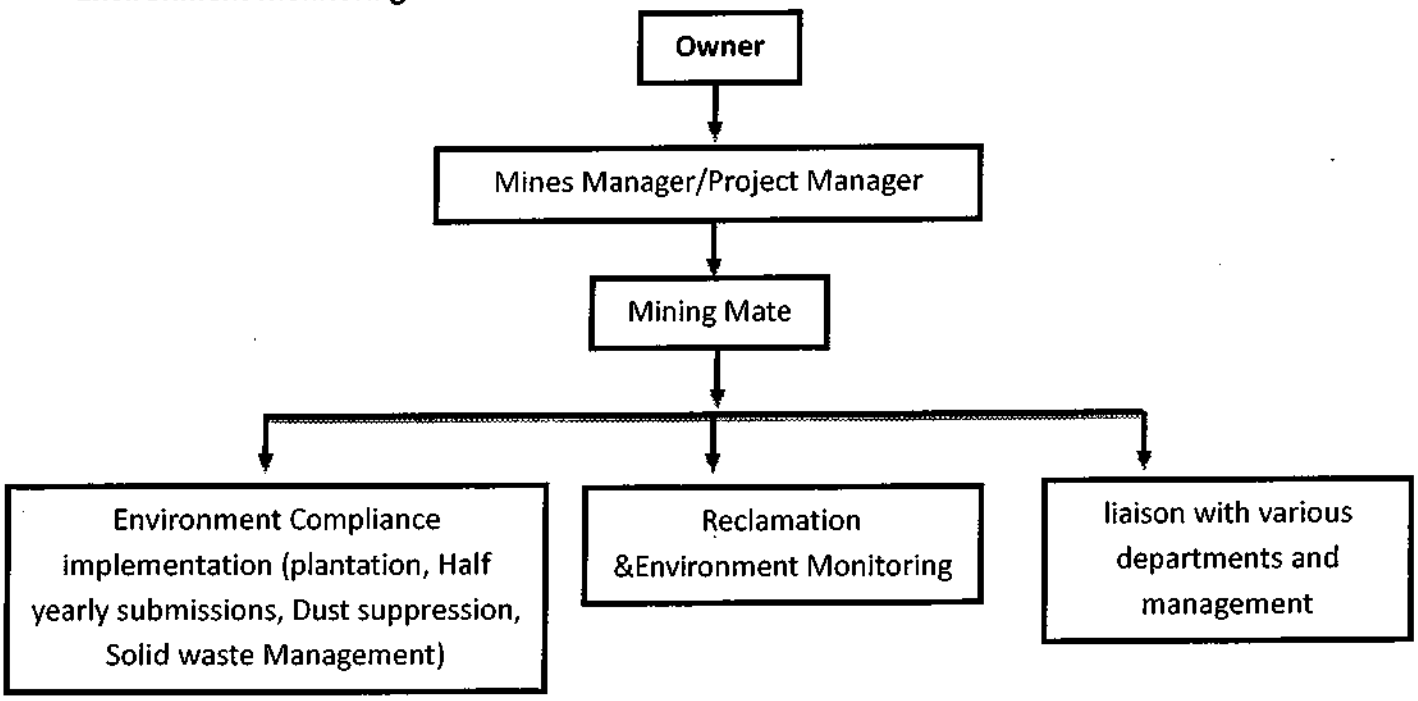
- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

PROPOSED FOR ENVIRONMENT MANAGEMENT COST						
S. No.	**Mitigative measures to protect Environment**	**Criteria Pollutants**	**Capital Cost (In Lakh)**	**Recurring cost (In Lakh)**	**Implementation Responsibility**	**Frequency and Method**
1.	Water Sprinkling/Air pollution control	Dust (PM 10 & PM 2.5)	15.0	1.0	Mining Mate supervised by Mine Manager	Daily Basis/Requirement Basis Register/Log

	(Dust Suppression along haulage road and mine) One Water Tanker					book
2.	Green belt development safety zone 7.5mtr and along the road (for each plant including hedges and fences) @No. of plants 1054 x 500Rs.	No2,So2 & CO reduction Noise reduction	5.27	1.5	Mining Mate supervised by Mine Manager	Care taking@twice a week, Tree Inventory,
3.	Environment Monitoring (Air, Water, Noise& Soil Monitoring)	Deviation in Baseline	Nil	1.0	Out source to NABL Accredited Lab-Monitored by Mine Manager	Mine Manager Review of base line as per monitoring plan proposed
	TOTAL		**20.27**	**3.5**		

Environment Monitoring Cell



Organization Chart for Environment Management Cell

Responsibility of Environment Management cell

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:

- ✓ Implement environmental control measures.
- ✓ Oversee reclamation planning and management.
- ✓ Manage air and water pollution control.
- ✓ Liaise with state and central statutory agencies.
- ✓ Develop greenbelt areas.

- Performance Review: Assess corporate environmental performance and report non-compliances.
- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.

Act as a bridge for project implementation and Project Authorities

Facilitate afforestation efforts.

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx In the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.

- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

i. Use of Sharp Drill Bits

ii. Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

iii. Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced.
- Optimum quantity of explosives would be used.
- Blasting to be done during favourable weather conditions.

iv.Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

v. Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

vi. Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken:

- Regular water sprinkling on Gaul road by using water Tankers.
- Regular repair of Haul road.
- All Trucks carrying stone outside lease area will have PUC certificate

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to
Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adversegeological faulting or poor work methods. Those at greatest risk will be workers engaged inloading material and driving vehicles. To manage the face stability, the Following measureswill be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drillingoperations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working orabandoned bench, the risk of minerals or materials falling onto workers at the foot of theface should not be overlooked. A face and bench are a necessary part of a working quarryand therefore it is not possible to remove the hazards associated with them.While others may need to work at or near the edge of a working bench the person most atrisk during the drilling operation is the driller. Others such as the manager of the mine ormaintenance personnel, may approach the bench edge during the drilling operation in theevent of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drillingoperation; part of the training includes instructions to always face towards the openedge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of thebench

- Provision to attach a safety line to the drilling rig and provide a harness for thedriller to wear.
- Restricted access to the area to all persons except those necessary for the drillingoperation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properlyapplied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability ofwater), exhaust/ vacuum system will be provided which removes the dust from thedrill hole continuously and discharges the same in a dust collector speciallyprovided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposalarrangement.
- Deep wetting of drilling zones will be done by water sprinkling before startingdrilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk willbe assessed. Unless control measures are in place no-one, except those necessary for thework in hand, will be allowed inside the designated noisy area. In most cases this will bethe drill operator.

The risk is highest at older machines. Newer large drilling machines are provided withsound insulated operating cabins which control the noise level within the cabins toacceptable levels. Hence, it will be ensured that newly updated machines will be used fordrilling.Other control measures will include training operators and providing them with earprotection, although the latter should only be seen as an interim precaution until apermanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due toovercharging of the shot holes as a result of certain special features of the local ground.Flying rocks are encountered during initial and final blasting operations. Noise and dustalso generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrationsdo not damage the structures/houses if the quarrying operations are close to humanhabitation.
- Blasting shall be conducted only during favourable weather conditions and onlyduring the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be givenin the local area through announcement and other available media so that local people

become aware of the blasting activities being undertaken in the area and take appropriate precautions.

- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure

- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting largequantity of mineral from a mine. During transportation of minerals in the mining area,utmost care will be taken by the vehicle operator to avoid any accident with any incomingvehicle by keeping sufficient gap between the two vehicles, keep safe distance from theedge of the mine face, avoid any accident to a worker crossing the haul road and shallmaintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smoothtransportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoidsuspension of dust.
- All transportation within the mine lease area should be carried out directly underthe supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughlyat least once a month by the competent person authorized for the purpose by themanagement.
- Navigation signs will be provided at each and every turning point up to the mainroad (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loadingpoints, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.

f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bagcha Mako Stone Deposit by M/s Pindari Enterprises (Prop. : Md. Jeeshan Kareem), Village : Bagcha Mako, Thana : Taljhari, Distt. : Sahibganj, Jharkhand (2.630 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests .

Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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18. Tirla – I Sand Ghat in Koel River of M/s Jharkhand State Mineral Development Corporation Ltd., Mauza : Tirla - I, Block : Manoharpur, Distt.: West Singhbhum, Jharkhand (18.90 Ha).

(Proposal no.: SIA/JH/MIN/530350/2025)

The Consultant vide letter dated 08.05.2025 requested for deferment of the proposal due to the personal reason. Hence, the proposal was deferred to next meeting.

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19. Tirla – II and Tartara Sand Ghat in Koel River of M/s Jharkhand State Mineral Development Corporation Ltd., Mauza : Tirla – II and Tartara, Block : Manoharpur, Distt.: West Singhbhum, Jharkhand (10.70 Ha).

(Proposal no.: SIA/JH/MIN/530559/2025)

The Consultant vide letter dated 08.05.2025 requested for deferment of the proposal due to the personal reason. Hence, the proposal was deferred to next meeting.

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20. **Keso – 15 Sand Ghat in the river bed of Keso River of M/s Jharkhand State Mineral Development Corporation Ltd., Mouza : Ambadih & Dasaro Khurd, Block : Jainagar & Markacho, Distt. : Koderma, Jharkhand (3.21 Ha).**

(Proposal no.: SIA/JH/MIN/ 532410 /2025)

Name of the consultant : Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

ToR Application for: Proposed Capacity- 38,520Cum per Annum

PROJECT AND LOCATION DETAILS:

S.No.	Parameter	Details	
1	Project Name	Keso-15 Sand Ghat	
2	Proponent:	M/s Jharkhand State Mineral Development Corporation Ltd. (A Govt. of Jharkhand Enterprises) Shri Karun Kumar Chandan(In-Charge-Sand)	
3	Lessee Address	Khanij Nigam Bhawan, Doranda, Ranchi 834002 (Jharkhand)	
4	Lease Area	3.21 Ha or 7.93 Acre	
5	Type of Land	Non-Forest Government Land (River Bed)	
6	Project Cost	Rs 36 Lakhs	
7	EMP Budget	**Capital**: Rs 9.69Lakhs	**Recurring**: 2.87 lakhs / year
8	New or Expansion	New	
9	Mineable Reserves for 1st year & subsequent year 60% of Replenished quantity	**38,520 Cum Per Annum**	
10	Mine Life	Life of Mine / Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.	
11	Man power	101	
12	Water Requirement	Total water requirement is about 9.099 KLD= 4.545 KLD (Drinking Water & Domestic Uses, 101 persons @45 LPCD) + 1.95 KLD (Water sprinkling) + 2.604 KLD (plantation).	
13	Water Source	By Authorised hired tankers	
14	DG Set / power	NA	
15	Crusher	NA	
16	Nearest Water Body	Keso River (project site)	
17	Nearest Habitation	TetraunKoderma, at 0.88 KM in NW direction.	

18	Nearest Rail Station	Parsabad Railway Station is about 2.46Km in SW direction.
19	Nearest Air Port	Giridih Airport is about 54.6 Km in E direction.
20	Nearest Forest	**Name of Places** / **Distance (Km)** / **Direction** Khijursota PF / 4.66 / S Bhikhnadih PF / 6.5 / SW Digwar PF / 4.9 / SE
21	Road Highways	Parsabad Roadabout 0.49 inW direction.
22	Seismic zone	Zone III as per seismic zone map of India

CO-ORDINATES

Pillar No.	Latitude	Longitude	Pillar No.	Latitude	Longitude
1	24°18'58.13"N	85°45'38.92 E	14	24°19'8.37°N	85°45'43.64 E
2	24°18'57.60"N	85°45'38.36"E	15	24°19'7.72"N	85°45'43.26 E
3	24°18'57.67"N	85°45'38.25"E	16	24°19'6.71"N	85°45'43.27 E
4	24°18'58.29"N	85°45'38.53 E	17	24°19'5.12"N	85°45'43.36"E
5	24°19'1.76"N	85°45'38.42"E	18	24°19'3.98 N	85°45'43.15 E
6	24°19'3.19"N	85°45'38.44"E	19	24°19'3.95"N	85°45'43.08"E
7	24°19'4.99"N	85°45'39.49"E	20	24°19'2.87 N	85°45'42.77"E
8	24°19'6.92"N	85°45'40.29"E	21	24°19'1.99"N	85°45'42.32"E
9	24°19'8.84"N	85°45'41.58 E	22	24°19'1.43 N	85°45'41.79"E
10	24°19'10.68 N	85°45'43.51 E	23	24°19'0.75"N	85°45'41.27"E
11	24°19'12.00 N	85°45'46.09"E	24	24°18'59.80"N	85°45'40.64"E
12	24°19'11.58 N	85°45'45.71"E	25	24°18'59.11"N	85°45'40.19"E
13	24°19'10.72"N	85°45'44,68"E	26	24°18'58,65 N	85°45'39.59"E

LAND DETAILS

MAUZA	KHATA NO.	PLOT NO.
Ambadih	826	826
Dasaro Khurd	583	2263, 1890

STATUTORY CLEARANCES :

1	LOI/Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)- 117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Jainagar (Koderma) vide letter no. : 314, dated 27.04.2023 and CO, Markacho (Koderma) vide letter no. 213, dated 24.04.2023 have mentioned the plot no. of the project is not recorded as "Jungle - Jhari"

			in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Koderma vide memo no. 791/M, dated 08.05.2024 certified that the 02 other Balughat (5.35 Ha and 1.00 Ha) exists within 500 m radius from proposed project site and total area is 9.56 Ha.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. : 1782, dated 13.08.2024 certified that the proposed project site is outside Eco Sensitive Zone of Koderma Wildlife Sanctuary.
5	DFO Territorial	:	DFO, Koderma Forest Division vide letter no. 757, dated 19.03.2025 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved District Survey Report (DSR) of Koderma (Sl. No. 15 & 30).
7	Gram Sabha	:	BDO, Markacho vide letter no. 548, dated 08.05.2024 informed that Gram Sabha conducted on 29.04.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Koderma vide letter no. 749/M, dated 03.05.2024.
9	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

WORKING DETAILS

1	Mining Method	:	Opencast Manual Method
2	Quarry Area	:	3.21 Ha
3	Waste Generation	:	No waste generation
4	Stripping Ratio	:	0:0
5	Working Days	:	200 Days
6	Benches: size & No	:	NA
7	Ground Level Elevation	:	317Amsl
8	Ultimate Working Depth	:	315Amsl
9	Water Table	:	NA
10	Topography of Mine	:	Area represents gently sloping land.
11	Explosive Requirement	:	None. No blasting required
12	Diesel/Fuel Requirement	:	Not required for mining.

PRODUCTIONDETAILS

1	Year	1st
2	Total Area (Ha)	3.21
3	Area of 60% (Ha)	1.926

4	Average Replenishment Rate (%)	100
5	Thickness (m)	2.0
6	Geological Reserve (cum)	64,200 Cum Per Annum
7	Mineable Reserve (cum)	38,520 Cum Per Annum

Year	Total area (Ha)	Thickness (m)	Average Replenishment Rate	Volume (cum)
1st	1.926	2.0	60%	38,520

Every year replenishment study (pre-monsoon & Post-Monsoon) will be carried out and 60% of production will be done as per Sustainable Sand Mining guidelines, 2016 & 2020.

LAND USE

GM Land	Area in Hectares
Private Land	0.00
Proposed Mining Area	1.926
Safety Zone	0.12
Unused Area	1.164
Total Area	**3.21**

ENVIRONMENT MANAGEMENT

GREEN BELT DEVELOPMENT

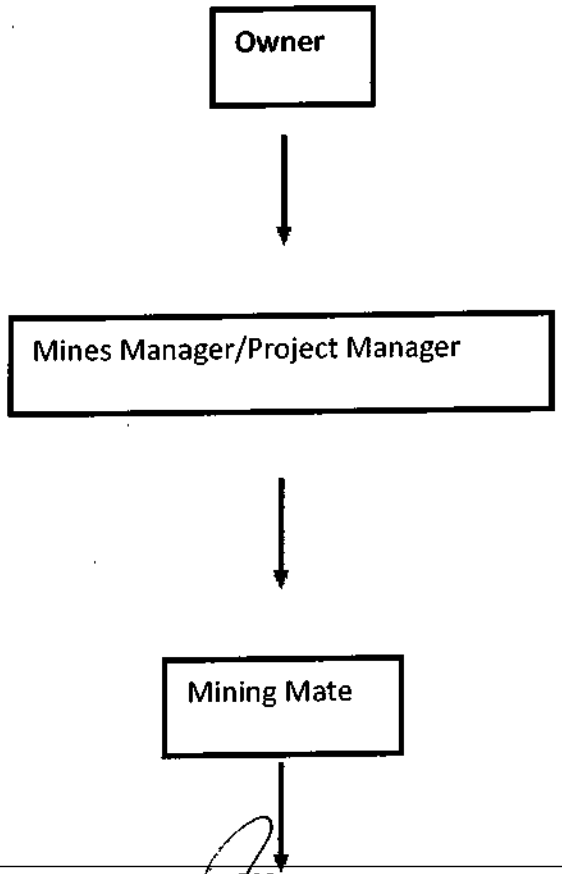
Village	No of plants	Area consider for plantation (length of approach road) KM	Species of plant
Keso-15 Sand Ghat Total area of 3.21 ha in River- Keso	868	0.65KM Approach Road, 650/3 = 217 Plants 217 * 4 = 868 plants (Two Row Plantation along The both side of the road)	Mango, Jackfruit, Jamun, babul, Gulmohar, Neem, Pipal, Arjun etc

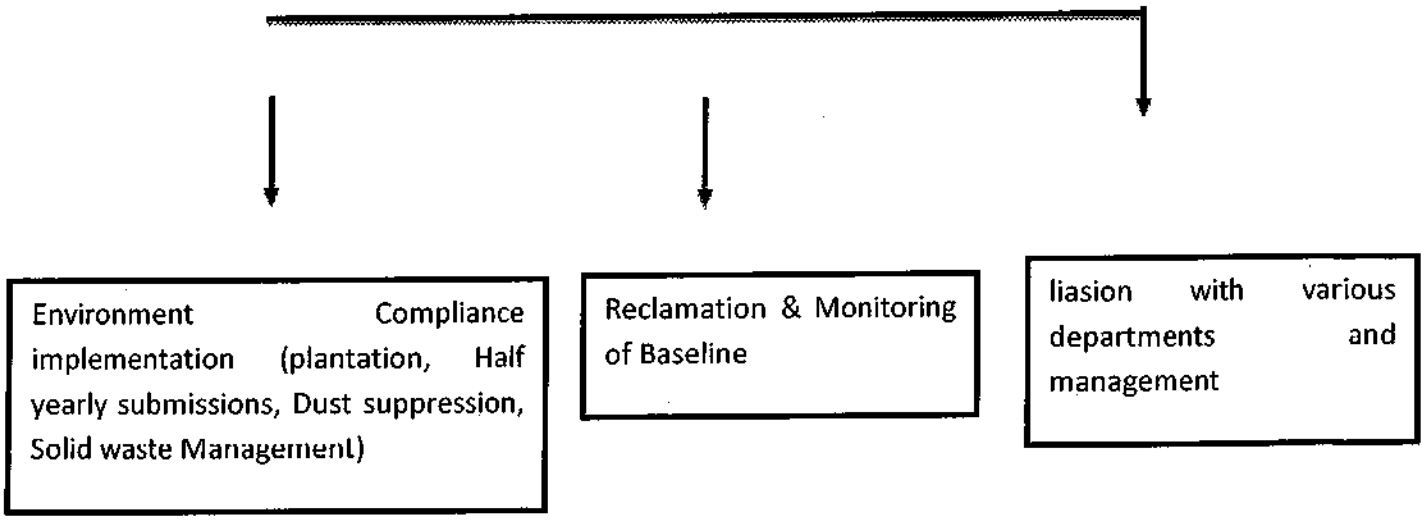
- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Sr. No.	Particulars		Budget Provisions (Rs)	
			Capital	Recurring
1	Water Requirement	Water sprinkling for outgoing and incoming transportation vehicles for haul road and Green Belt. Cost for 200 days for 4.554 KLD @5 KL tanker capacity, Rupees 500- per tanker	10,000	91,000
2	Road Maintenance & Monitoring budget	Prepare & Maintenance of approach road (Max. Road length 0.65 Km, Width 4.0m) @200Rs. /Sq. Meter.	5,20,000	52,000
		Monitoring twice a year (Air, Soil, Water & Noise twice a year)	-	1,00,000
3	Plantation Scheme	Green Belt Development along the road (for each plants including hedges and fences) 868 Plants @ INR 500/Plant	4,34,000	43,400
4	Solid Waste Management	Bins 10 nos.	5,000	1,000
		Transport of Dry Waste/Wet Waste	-	
Total EMP Budget			**9.69,000**	**2,87,000**

Environment Monitoring Cell





Organization Chart for Environment Management Cell

Responsibility of Environment Management cell

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
- Performance Review: Assess corporate environmental performance and report non-compliances.
- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.
Act as a bridge for project implementation and Project Authorities
Facilitate afforestation efforts.

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx In the vicinity of the mine area. In	2 Stations	Six Monthly

	the surrounding area covering project site only.		
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

SOLID WASTE MANAGEMENT

No solid waste is generated during the course of mining.

WATER QUALITY MANAGEMENT

A. Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
B. Sewage from rest shelter would be treated in Septic Tank soakpit.
C. There is no other source for generation or discharge of tradeeffluent.

AIR QUALITY MANAGEMENT

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

I. **OPERATION OF DIESEL EQUIPMENT'S –**They generate Noxious gases. It will be ensured that all transport vehicles would be repaired & maintainedregularly.
II. **LOADING OF PRODUCT ON TIPPERS –**Water will be sprinkled on blasted Sand mass before they are loaded to trucks fortransport.
III. **MOVEMENT OF TIPPERS ON ROAD –**Movement of tippers on road generate dust. For mitigation of this pollution following measures will betaken

- ✓ Regular water sprinkling on Haul road by using watertankers.
- ✓ Regular repair of Haulroad
- ✓ All Trucks carrying Sand outside lease area will have PUCcertificate.
- ✓ Transport tippers/traders moving on public road will be covered with tarpaulin.

RISK ASSOCIATED WITH PROJECT ACTIVITIES AND THEIR MITIGATION MEASURES ARE DICUSSED BELOW:

ROAD ACCIDENTS

Transportation of sand along the public road may cause accident which may cause injury.
Preventive Measures;

1. Ensure speed limit for the haulage vehicle for 40KMPH.
2. Regular maintenance of haulageroad
3. Appropriate navigational signs informing sensitive area like school andhabitation
4. Regular maintenance of thevehicles.

DUST GENERATION

- ✓ No drilling involved
- ✓ Dust mass would be supplied toworkers
- ✓ Regular sprinkling of water onroad

NOISE GENERATION

Source of noise pollution in the project would be movement of tippers / tractors transporting sand from mine to stockyard. In general, tippers / tractors produce a noise level of 75 – 90 (A) measured at distance of 3m from the source.

PREVENTIVE MEASURES

- ✓ Transportation activities would be confined during day timeonly.
- ✓ There would be a speed limit of 40 kmph for tippers. Higher is speed higher isnoise.
- ✓ Regular repair and maintenance oftippers/tractors.
- ✓ Plantation on both sides of haulageroad.
- ✓ Tippers having PUC certified will be allowed to be used for sandtransportation.

HEALTH HAZARDS

During digging and handling of sand i.e. loading, transportation and unloading of sand, workers would be exposed to inhalation of fine dust particles. This poses a health hazard.

PREVENTIVE MEASURES

Following mitigation measures would be taken to minimize this impact on health

- ✓ Regular water sprinkling on haulageroads.
- ✓ Tree plantation on both sides of haulageroad.
- ✓ Tippers / Tractors carrying sand would becovered.
- ✓ Mask would be provided to workmen employed for digging, loading, transportation and unloadingactivities

ACCIDENT AT SITE

This is a project with only source of accident at site would be movement of tippers/tractors within mine site for transportation of sand.

PREVENTIVE MEASURES

Following mitigation measures would be taken to minimise risk of road accident-

- ✓ Separate alignment for movement of loaded vehicles coming out of minesite
- ✓ Ensure speed restriction of 10 KMPH within mine site for incoming and outgoing tippers
- ✓ Regular maintenance and repair of haulage vehicles employed for sand transportation
- ✓ No overtaking of transportation vehicles within minesite

- ✓ Proper maintenance of haulageroads

TRANSPORTATION

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- ✓ Mine road shall be made smooth regularly with a roadroller.
- ✓ Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- ✓ Mine road will be made sufficiently wide to keep two-waytraffic.
- ✓ Mine roads will be designed as per the specifications given under MMR1961.
- ✓ Regular water sprinkling will be done on mine road and haul road to avoid suspension ofdust.
- ✓ All transportation within the mine lease area should be carried out directly under the supervision and control ofmanagement.
- ✓ The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- ✓ Navigation signs will be provided at each and every turning point up to the main road (whereverrequired)
- ✓ To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spottingoperating.
- ✓ Only trained drivers will behired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.

g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
m. Transportation from the river bed to the AmbadihParsabad Road will be done using the existing road.
n. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
o. Wet sand will not be transported.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. Pre-monsoon data of current year is to be included in final EIA report.
III. Satellite imagery with Geo-Cordinates of pre-monsoon (current year) to be included in the final EIA report.

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21. Salbona Pahar Stone Mine by M/s Jyoti Construction and Engineering Pvt. Ltd. (Director : Shri Ranjit Kumar and Shri Surjeet Kumar), Village : Salbona Pahar, Thana : Shikaripara, Thana no. : 07, Distt. : Dumka, Jharkhand (2.05 Ha).

(Proposal no.: SIA/JH/MIN/ 531943 /2025)

Name of the consultant : Oceao-Enviro Management Solutions (India) Pvt. Ltd., Ghaziabad, U.P.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

ToR Application for: Proposed Capacity: 52,944 Cum Per Annum or 1,42,949 Ton Per Annum.

Project and Location Details:

S. No	Parameter		Details	
1	Project Name	:	Salbonapahar Stone Mine with Crusher M/s Jyoti Construction and Engineering Pvt. Ltd.	
2	Director	:	Shri Ranjit Kumar & Shri Surjeet Kumar	
3	Lessee Address	:	R/o- A/3 Vivekanand Park Lane A, S.E. Patliputra Colony Boring Road, Patna- Bihar 800013.	
4	Lease Area	:	Acres: 5.06	Ha:2.05
5	Type of Land	:	Raiyati Land	
6	Project Cost	:	46.00 Lakhs	
7	EMP Budget	:	Capital: 25.90Lakhs	Recurring: 8.0Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	2,63,838 Cum	7,12,363 Tonnes
10	Mine Life	:	05 Years	
11	Man power	:	20 persons	
12	Water Requirement	:	Total water requirement is about 7.60 KLD = 0.60 KLD (Drinking & DomesticUses) + 4.0 (Plantation) KLD + 3.0 KLD (Dust Suppression).	
13	Water Source	:	The drinking water will be available from nearby village by tractor tank manually by labors at the site.	
14	DG Set / power	:	125 KVA (Temporary setup for Backup)	
15	Crusher	:	Yes (Capacity: 200-280Ton/Hour)	
16	Nearest Water Body	:	SaharpurPondis about 1.48km in ESE direction. Matiyazuri Village Pond is about 1.46km in W direction.	
17	Nearest Habitation	:	Saharpur is about 1.07 km in E direction.	
18	Nearest Rail Station	:	Pakdaha Harinsing Railway station is about 6.03 km in N direction.	
19	Nearest Airport	:	Gaya International Airport is about 142.81 km in NE direction.	

20	Nearest Forest	:	Shikaripara Forest	6.96	NW
			Purpahar PF	4.84	WSW
			Litia Pahar	5.79	SSW
21	Road & Highways	:	NH-114A is about 3.51 km in N direction.		

CO-ORDINATES

PILLARS	LATITUDE	LONGITUDE
1	24° 11' 5.593" N	87° 34' 12.267" E
2	24° 11' 5.556" N	87° 34' 13.535" E
3	24° 11' 5.414" N	87° 34' 14.502" E
4	24° 11' 5.963" N	87° 34' 15.275" E
5	24° 11' 5.370" N	87° 34' 16.389" E
6	24° 11' 5.522" N	87° 34' 15.677" E
7	24° 11' 4.421" N	87° 34' 15.998" E
8	24° 11' 3.768" N	87° 34' 17.552" E
9	24° 11' 3.082" N	87° 34' 19.163" E
10	24° 11' 2.170" N	87° 34' 19.353" E
11	24° 11' 0.949" N	87° 34' 21.013" E
12	24° 11' 0.350" N	87° 34' 22.557" E
13	24° 10' 59.883" N	87° 34' 22.150" E
14	24° 11' 0.550" N	87° 34' 20.563" E
15	24° 11' 1.427" N	87° 34' 18.316" E
16	24° 11' 1.936" N	87° 34' 15.859" E
17	24° 11' 2.399" N	87° 34' 13.480" E
18	24° 11' 3.570" N	87° 34' 11.073" E
19	24° 11' 4.478" N	87° 34' 11.655" E

LAND DETAILS

Khata no.	Plot no.
34, 08 & 27	159 (P), 160, 161 (P) & 162

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 825/M, dated 15.07.2024.
2	CO	:	The CO, Shikaripara vide letter no. 1131/Ra., dated 11.09.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 331/M, dated 10.02.2025 certified that 04 LoI (1.98 Acre, 6.94 Acre, 4.66 Acre & 4.01 Acre) 08 other mining lease area (7.34 Acre, 4.01 Acre, 7.39 Acre, 2.81 Acre, 7.00

			Acre, 4.62 Acre, 5.10 Acre & 3.80 Acre) exists within 500 meters radius from proposed project site and total area is 64.72 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2045, dated 06.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 2839, dated 29.08.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dumka District (Sl. no. 24, Page no. 284).
7	Gram Sabha	:	Gram Sabha conducted on 06.08.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 1418/M, dated 20.12.2024.
9	Qualified Person	:	Md. Tauseef Warsi was present in the meeting and affirmed that the mine plan has been prepared by him.

WORKING DETAILS

1	Mining Method	:	OCM & Mechanised	
2	Lease Area	:	5.06 ACRES / 2.05 HA	Life of Mine – 05 years
3	Waste Generation	:	5 years–36526 Cum	
4	Stripping Ratio(t/m^3)	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Highest Elevation of lease Area	:	214 AMSL	
8	Lowest Elevation of lease Area		211AMSL	
9	Ultimate Working Depth	:	182 AMSL	
10	Water Table	:	140 AMSL (30BGL)	
11	Topography of Mine	:	almost flat land with twohillocks	
12	Explosive Requirement	:	119.05 kg (External Agency)	
13	Diesel/Fuel requirement		492 Litres per day	

PRODUCTION DETAILS

Year	Generation of Waste/O. B in cum	Production of Stone in Cum	Production of Stone in Tonnes	Grade/Uses
1st	20654	52506	141766	Construction & Road
2nd	0	52679	142233	Construction & Road

3rd	8492	52744	142409	Construction & Road
4th	0	52914	142868	Construction & Road
5th	7380	52944	142949	Construction & Road
(A)	36526	263787	712225	
Stripping Ration in (m3/t) - 1:0.05				

LAND USE

LAND USE PATTERN			
	Existing	**First to Fifth Years**	**After Life of Mine**
Category	**Area in Hectares**	**Area in Hectares**	**Area in Hectares**
Quarry	0.29	1.39	1.46ha (0.11ha area will be reclaimed and used for plantation, 1.35Ha.area will be convert as water reservoir)
Haul Road	0.00	0.02 (used in quarry)	0.00
Proposed Mobile Crusher	0.00	0.05 (used in quarry)	Remove from lease area
Green belt in Safety Zone	0.00	0.59	0.59
Dump with Parapet wall & Garland drain	0.00	0.00	First Year top soil will be used for plantation and rest overburden shall use for haul road dressing and backfilling.
Total area in use	**0.29**	**2.05**	**2.05**
Balance unused area	1.76	0.00	0.00
Balance used area	0.00	0.00	0.00
Total Applied Lease Area	**2.05**	**2.05**	**2.05**

ENVIRONMENT MANAGEMENT

Green Belt Development

The plantation will be done under the Campaign "Ek Ped Ma Ke Naam". Total number of saplings to be planted in the entire plan period will be 1584 saplings. Green Belt area will be developed along the periphery of mining lease area and haulage route, in consultation with local Authority (Plantation density considered is 944 plants on 0.59 Ha area or 2.5m X 2.5m grid pattern).

Year	**Place of Plantation**	**Spacing b/w plants**	**Total No. of Plants**	**Area Cover in Square Meters**	**Total Area in Ha.**	**Species**
1st	Safety Zone	2.5 x 2.5	944	5900	0.59	Pipal Bargad Palash Fruit Bearing
	Haul Road	3 x 3	640	480M Approach Road 480/3 = 160Plants 160x 4 =640 Plant		
2nd	Care & Protection	---	---	---	---	

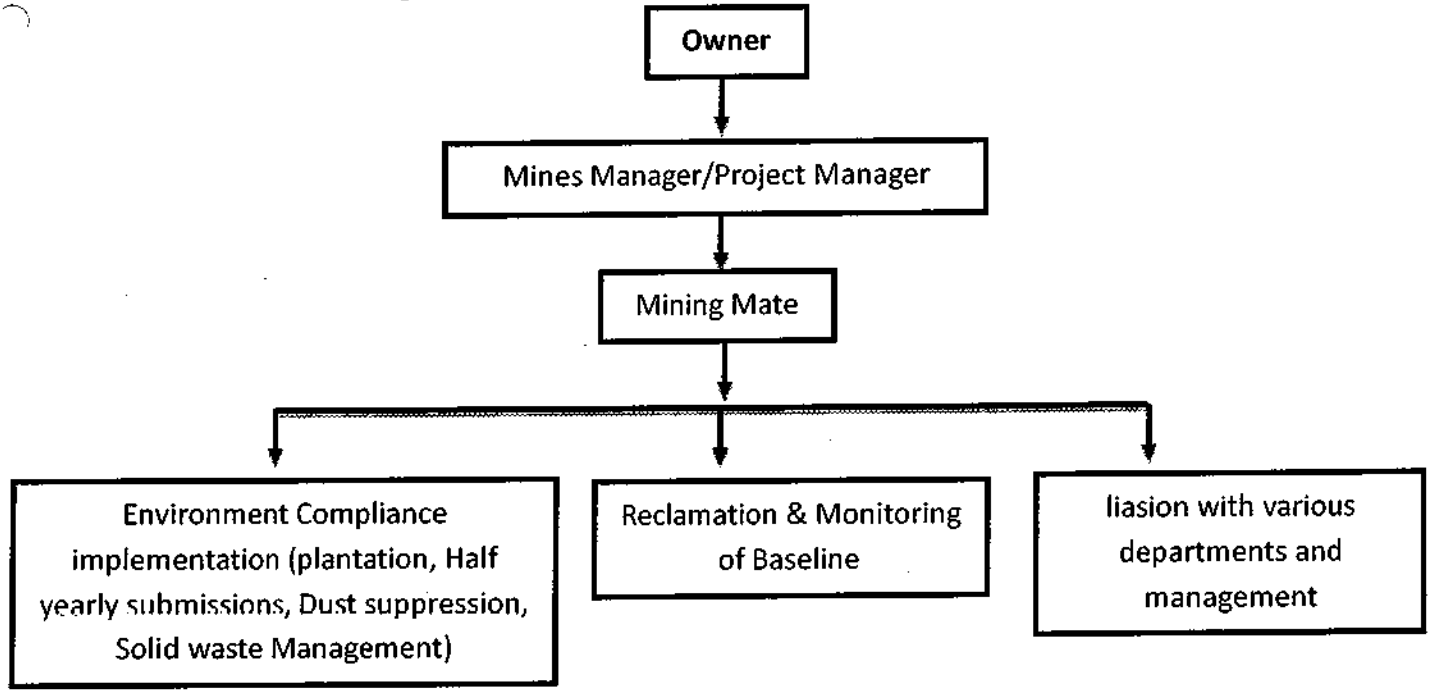
3rd	Care & Protection	---	---	---	---	Trees Mango, Jackfruit, Guava, Jamun
4th	Care & Protection	---	---	---	---	
5th	Care & Protection	---	---	---	---	
Total			**1584**	**5900**	**0.59**	

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

S .NO.	Particulars	Budget Provisions (Rs)	
		Capital	Recurring
Water Demand			
1(a)	Overhead water sprinkling system with solar pump for outgoing and incoming transportation vehicles for haul road and green belt, Cost for 300 days for 7 KLD @5 KL tanker capacity, Rupees 500/- per tanker	1,00,000	2,10,000
	& One dedicated tanker of 5 KL for Greenbelt Management	10,00,000	50,000
1(b)	Handling of sewage water	0	57,600
2	Prepare & Maintenance of approach road (Max. Road length 480 m, Width 4.0 m) @ 500Rs. /Meter.	2,40,000	24,000
3	Monitoring (Air, Water, Soil & Noise)	Nil	1,00,000
4	Settling tank 2 in no's (LBH 12 m* 7 m* 4 m) & Garland drains	2,00,000	30,000
5	Wire Fence 840 m x 300 /– meter	2,52,000	-
Plantation Scheme			
Plantation in consultation with DFO & Gram Panchayat and conversion to Grazing land as far as possible.			
6	Green belt development safety zone 7.5mtr and along the road (for each plants including hedges and fences and tree guard at approach roads) 1584 No. of plants x 500 Rs.	7,92,000	3,00,000
Solid Waste Management			
7	Bins 2 Nos.	1,500	4,000
8	Transport of Dry Waste	5,000	
9	Vehicle Maintenance +PUC Certification	Nil	25,000
Total EMP Budget		**25,90,500**	**8,00,600**

Environment Monitoring Cell



Organization Chart for Environment Management Cell

Responsibility of Environment Management cell

- Supervision: Managed by Mines Manager with a qualified technical team.
- Personnel: Includes skilled, semi-skilled, unskilled, and other third parties.
- Responsibilities:
  - ✓ Implement environmental control measures.
  - ✓ Oversee reclamation planning and management.
  - ✓ Manage air and water pollution control.
  - ✓ Liaise with state and central statutory agencies.
  - ✓ Develop greenbelt areas.
- Performance Review: Assess corporate environmental performance and report non-compliances.
- Remedial Actions: Suggest and implement actions for exceeding pollution limits.
- Coordination:

Collect health statistics for workers and local population.

Act as a bridge for project implementation and Project Authorities

Facilitate afforestation efforts.

Environmental Monitoring period: March 2025 to May 2025

Baseline Monitoring Location

AIR MONITORING LOCATIONS						
S. No.	**Particulars**	**Distance (KM)**	**Direction**	**Land use**	**Latitude**	**Longitude**
AAQ1	On Site	-	-	Project site	24°11'2.09"N	87°34'17.23"E
AAQ2	Primary School	1.45	ESE	Silent Zone	24°10'46.96"N	87°35'11.39"E

AAQ3	Saharpur Village	2.48	ESE	Residential Area	24°10'27.63"N	87°35'42.49"E
AAQ4	Bajrangbali Mandir	4.19	E	Silent Zone	24°10'47.93"N	87°36'48.20"E
AAQ5	Chandangaria School	2.5	SE	Silent Zone	24°10'3.88"N	87°35'22.84"E
AAQ6	Benagaria Durga Mandir	3.69	ENE	Silent Zone	24°11'28.58"N	87°36'29.44"E
AAQ7	Haripur Village	1.62	NE	Residential Area	24°11'38.00"N	87°35'2.15"E
AAQ8	Shikaripara Village	1.65	WNW	Silent Zone	24°11'16.85"N	87°33'13.47"E

NOISE MONITORING LOCATIONS						
S. No.	**Particulars**	**Distance (KM)**	**Direction**	**Landuse**	**Latitude**	**Longitude**
NQ1	On Site	-	-	Project site	24°11'2.09"N	87°34'17.23"E
NQ2	Primary School	1.45	ESE	Silent Zone	24°10'46.96" N	87°35'11.39"E
NQ3	Saharpur Village	2.48	ESE	Residential Area	24°10'27.63" N	87°35'42.49"E
NQ4	Bajrangbali Mandir	4.19	E	Silent Zone	24°10'47.93" N	87°36'48.20"E
NQ5	Chandangaria School	2.5	SE	Silent Zone	24°10'3.88"N	87°35'22.84"E

SOIL MONITORING LOCATIONS						
S. No.	**Particulars**	**Distance (KM)**	**Direction**	**Landuse**	**Latitude**	**Longitude**
SQ1	On Site	-	-	Project site	24°11'2.09"N	87°34'17.23"E
SQ2	Primary School	1.45	ESE	Silent Zone	24°10'46.96"N	87°35'11.39"E
SQ3	Saharpur Village	2.48	ESE	Residential Area	24°10'27.63"N	87°35'42.49"E
SQ4	Bajrangbali Mandir	4.19	E	Silent Zone	24°10'47.93"N	87°36'48.20"E
SQ5	Chandangaria School	2.5	SE	Silent Zone	24°10'3.88"N	87°35'22.84"E

GROUND WATER MONITORING LOCATIONS						
S. No.	**Particulars**	**Distance (KM)**	**Direction**	**Landuse**	**Latitude**	**Longitude**
GWQ1	Primary School	1.45	ESE	Silent Zone	24°10'46.96"N	87°35'11.39"E
GWQ2	Saharpur Village	2.48	ESE	Residential Area	24°10'27.63"N	87°35'42.49"E
GWQ3	Bajrangbali Mandir	4.19	E	Silent Zone	24°10'47.93"N	87°36'48.20"E
SURFACE WATER MONITORING LOCATIONS						
S. No.	**Particulars**	**Distance (KM)**	**Direction**	**Landuse**	**Latitude**	**Longitude**
SWQ1	River (Upstream)	8.44	NNW	Silent Zone	24°15'28.41"N	87°32'58.21"E
SWQ2	River (downstream)	10.02	NNE	Silent Zone	24°15'21.78"N	87°37'56.66"E

Environment Monitoring Plan (Operation Phase)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

The waste encountered during the mining operation is mainly. During Plan period gritty soil removed will be dumped at northern side with suitable precaution. Some quantity of the removed gritty soil would also be used for road dressing and plantation. After conceptual period de-stoned area of quarry will be reclaimed to the extent possible.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

i. Use of Sharp Drill Bits

ii. Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

iii. Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced.
- Optimum quantity of explosives would be used.
- Blasting to be done during favourable weather conditions.

iv.Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

v. Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

vi. Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken:

- Regular water sprinkling on Gaul road by using water Tankers.
- Regular repair of Haul road.
- All Trucks carrying stone outside lease area will have PUC certificate

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material,Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to

Low-Risk Rank and hence the risk is "Acceptable"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adversegeological faulting or poor work methods. Those at greatest risk will be workers engaged inloading material and driving vehicles. To manage the face stability, the Following measureswill be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drillingoperations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working orabandoned bench, the risk of minerals or materials falling onto workers at the foot of theface should not be overlooked. A face and bench are a necessary part of a working quarryand therefore it is not possible to remove the hazards associated with them.While others may need to work at or near the edge of a working bench the person most atrisk during the drilling operation is the driller. Others such as the manager of the mine ormaintenance personnel, may approach the bench edge during the drilling operation in theevent of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drillingoperation; part of the training includes instructions to always face towards the openedge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of thebench
- Provision to attach a safety line to the drilling rig and provide a harness for thedriller to wear.
- Restricted access to the area to all persons except those necessary for the drillingoperation.

  Dust generation during drilling

  The hazard is the inhalation of dust which is created during the drilling operation. Properlyapplied control measures can substantially reduce the risk to the drill operator.
- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability ofwater), exhaust/ vacuum system will be provided which removes the dust from thedrill hole continuously and discharges the same in a dust collector speciallyprovided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposalarrangement.
- Deep wetting of drilling zones will be done by water sprinkling before startingdrilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk willbe assessed. Unless control measures are in place no-one, except those necessary for thework in hand, will be allowed inside the designated noisy area. In most cases this will bethe drill operator.

The risk is highest at older machines. Newer large drilling machines are provided withsound insulated operating cabins which control the noise level within the cabins toacceptable levels. Hence, it will be ensured that newly updated machines will be used fordrilling.Other control measures will include training operators and providing them with earprotection, although the latter should only be seen as an interim precaution until apermanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due toovercharging of the shot holes as a result of certain special features of the local ground.Flying rocks are encountered during initial and final blasting operations. Noise and dustalso generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrationsdo not damage the structures/houses if the quarrying operations are close to humanhabitation.
- Blasting shall be conducted only during favourable weather conditions and onlyduring the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be givenin the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting largequantity of mineral from a mine. During transportation of minerals in the mining area,utmost care will be taken by the vehicle operator to avoid any accident with any incomingvehicle by keeping sufficient gap between the two vehicles, keep safe distance from theedge of the mine face, avoid any accident to a worker crossing the haul road and shallmaintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smoothtransportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoidsuspension of dust.
- All transportation within the mine lease area should be carried out directly underthe supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughlyat least once a month by the competent person authorized for the purpose by themanagement.
- Navigation signs will be provided at each and every turning point up to the mainroad (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loadingpoints, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

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22. Binderi Bandarkola Stone Mine of M/s Dada Bhai Stone Works (Partner : Md. Maniruzzaman), Village : Binderi Bandarkola, Thana : Borio, Distt. : Sahibganj, Jharkhand (2.96 Ha).

(Proposal no.: SIA/JH/MIN/ 524703 /2025)

Name of the consultant : Palle Business House, Hyderabad, Telangana.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

(Baseline Data Monitoring to be done during Post Monsoon i.e October, 2025 to December, 2025)

PROJECT and LOCATION Details:

Sl	Parameter		Details
1	Project Name	:	Binderi Bandarkola Stone Mine
2	Lessee:	:	M/s Dada Bhai Stone Works Prop- MD. Maniruzzaman

3	Lease Address	:	Mouza –Binderi Bandarkola,Thana-Borio,ThanaNo.-07,Dist.-Sahibganj(Jharkhand)	
4	Lease Area	:	Ha:2.96 Ha	Acres:7.32 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	79.29 Lakhs	
7	EMP Budget	:	Capital: 11.64 Lakhs	Recurring: 5.80020 Lakh / year
8	CSR / CER Budget	:	Rs. 3.0 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.m.:779760Cu. M.	Tonnes:2105352Tonnes
11	Mine Life	:	8 years	
12	Man power	:	21	
13	Water Requirement	:	10 KLD (Drinking: 2KLD,Dust Suppression:06 KLD, Plantation:2 KLD)	
14	Water Source	:	From NearbyRiver by tankers	
15	DG Set / power	:	No	
16	Crusher	:	No	
17	Nearest Water Body	:	Morang River 3.3 KMwest	
18	Nearest Habitation	:	Dumaria Village: 1.3 KM; Borio :9.5 KM	
19	Nearest Rail Station	:	Barharwa Railway Station is at areal distance of 46.5 km South direction.	
20	Nearest Air Port	:	Deoghar Airport is at areal distance of 143 km S-W	
21	Nearest Forest	:	870M along South East Direction as per Sol Toposheet	
22	Road & Highways	:	State Highway SH-18, Approx. 2.0 Km (West Direction)	

CO-ORDINATES

1	Latitude		From : $25^0$02'29.683" N	To $25^0$02'37.709" N
2	Longitude		From : $87^0$37'52.498" E	To $87^0$38'1.245" E

LAND DETAILS

Khata no.	Plot no.
46	646 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1018/M, dated 26.09.2024.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 512/Ra., dated 12.07.2024 has mentioned the plot no. of the project is not recorded as

			"Jungle- Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1084/M, dated 08.10.2024 certified that 01 Lol (7.04 Acre) exists within 500 meters radius from proposed project site and total area is 14.36 Acre.
4	DFO Wild Life	:	DFO – cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2234, dated 07.11.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1287, dated 27.06.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 24, Page no. 163).
7	Gram Sabha	:	Gram Sabha conducted on 18.11.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 1306/M, dated 06.12.2024.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 512/M, dated 20.03.2025 certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
10	Qualified Person	:	Shri S.K. Dutta was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi Mechanized. Jack Hammer, Drilling & Blasting to be used	
2	Quarry Area	:	5 years–1.65 ha	Life of Mine – 1.98ha
3	Waste Generation	:	5 years– Nil	Life of Mine – Nil
4	Stripping Ratio	:	0:1	
5	Working Days	:	300	
6	Benches: size & No	:	3m x 3m	
7	Elevation of Mine	:	228mt AMSL	
8	Ground Level Elevation		180mt AMSL	
9	Ultimate Working Depth	:	160mSL (Hence forth In AMSL)	
10	Water Table	:	120mt to 125 mtAMSL	
11	Topography of Mine	:	Hill	

12	Explosive Requirement	:	31.02 kg/day
13	Diesel/Fuel requirement	:	

Production Details

Years	Production In Cum/Year	Production In Tons/Year	OB
1st	96000	259200	0
2nd	98400	265680	0
3rd	99200	267840	0
4th	97600	263500	0
5th	100000	270000	0
Total	**491200**	**1326220**	0

Land Use

SL	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Mining Area	0.00	1.65	1.98	Water Body
2	Office /Store	0.00	0.00	0.00	
3	Crusher	0.00	0.00	0.00	
4	Road	0.00	0.01	0.00	
5	Garland Drain	0.00	0.00	0.00	
6	Safety Zone	0.00	0.98	0.98	Plantation
7	Settling Tank	0.00	0.00	0.00	
8	Unutilized	2.96	0.32	0.00	
	TOTAL	**2.96**	**2.96**	**2.96**	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.98 ha	2350 trees @ 2500 trees per ha
2	Other Reclaimed Area	:	NIL	NIL

3	Haul /Approach Road	:	0.21KM	280 trees on both sides – 3 m distance

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

- **EMP BUDGET**

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	2,70,000
2	Plantation 280 X 478.571 = Rs134000 (Gabion Plantation along approach road) 2350 X 400 = 3,35,200 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	10,74,000	1,06,800
3	Fencing	90,000	
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) - Rs.27,270 • Ground Water (2 point) - Rs.12,420 • Noise 24 hrs (3 point) - Rs.21,000 • Soil (3 point) - Rs.40,920 **Total -Rs. 1,01,610 (Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board**	--	2,03,220

	Notification, New Delhi, the 23rd February, 2022		
Total		**Rs11,64,000**	**Rs5,80,020**

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall becollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, dischargefrom Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

Environment Monitoring Programme

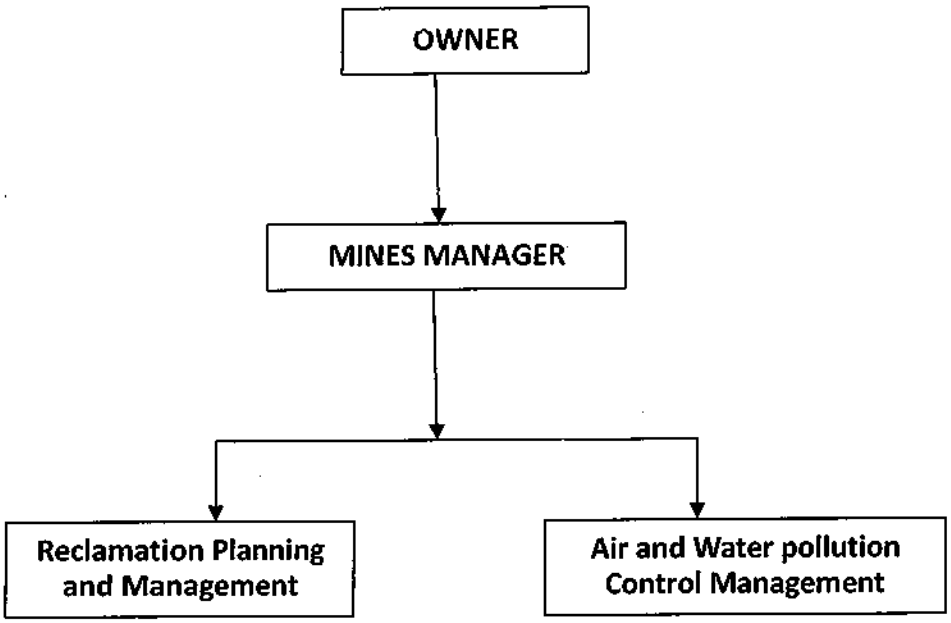
SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	One Day Monitoring (within 6 months)
2.	Water	2 stations	One Day Monitoring (within 6

			months)
3.	Soil	3 stations	One Day Monitoring (within 6 months)
4.	Noise	3 stations	One Day Monitoring (within 6 months)

Solid Waste Management

67080cum. O.B shall be generated during the plan period which shall be backfilled within the exhausted quarry.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
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Drilling – Drilling is a major source for emission of dust & Noxious Gases.

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Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul Road by using water Tankers.
- ✓ Regular repair of Haul Road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.

- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.

- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the

factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.

b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

i. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

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23. Binderi Bandarkola Stone Mine of M/s Anbar Stone Works (Prop. : Anbar Husen), Village : Binderi Bandarkola, Thana : Borio, Thana no. : 07, Distt. : Sahibganj, Jharkhand (2.85 Ha).

(Proposal no.: SIA/JH/MIN/ 530798 /2025)

Name of the consultant : Palle Business House, Hyderabad, Telangana.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

Baseline Data Monitoring to be done during Post Monsoon i.e October to December 2025)

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Binderi Bandarkola Stone Mine	
2	Lessee:	:	M/s Anbar Stone Works Prop- Anbar Husen	
3	Lease Address	:	Mouza –Binderi Bandarkola,Thana-Borio,ThanaNo.-07,Dist.-Sahibganj(Jharkhand)	
4	Lease Area	:	Ha:2.85 Ha	Acres:7.04 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	74.09 Lakhs	
7	EMP Budget	:	Capital: 10.68 Lakhs	Recurring: 5.80020 Lakh / year
8	CSR / CER Budget	:	Rs. 3.0 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Tonnes: 2049902Tonnes	
11	Mine Life	:	9 years	
12	Man power	:	21	
13	Water Requirement	:	10 KLD (Drinking: 2KLD,Dust Suppression:06 KLD, Plantation:2 KLD)	
14	Water Source	:	From NearbyRiver by tankers	
15	DG Set / power	:	No	
16	Crusher	:	No	
17	Nearest Water Body	:	Morang River 3.3KMwest	
18	Nearest Habitation	:	Dumaria Village: 1.3 KM; Borio :9.5 KM	
19	Nearest Rail Station	:	Barharwa Railway Station is at areal distance of 46.5 km South direction.	
20	Nearest Air Port	:	Deoghar Airport is at areal distance of 143 km S-W	
21	Nearest Forest	:	710M	
22	Road & Highways	:	State Highway SH-18, Approx. 2.0 Km (West Direction)	

CO-ORDINATES

1	Latitude		From : 25^{0}02'36.397" N	To 25^{0}02'43.386" N
2	Longitude		From : 87^{0}37'54.956" E	To 87^{0}37'59.425" E

LAND DETAILS

Khata no.	Plot no.
46	604 (P), 605 (P), 606 (P) & 613 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 1017/M, dated 26.09.2024.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 511/Ra., dated 12.07.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 1085/M, dated 08.10.2024 certified that 01 LoI (7.32 Acre) exists within 500 meters radius from proposed project site and total area is 14.36 Acre.
4	DFO Wild Life	:	DFO – cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2233, dated 07.11.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Division Forest Officer, Sahibganj Forest Division vide letter no. 1288, dated 27.06.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 25, Page no. 164).
7	Gram Sabha	:	Gram Sabha conducted on 18.06.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 1305/M, dated 06.12.2024.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 513/M, dated 20.03.2025 certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
10	Qualified Person	:	Shri S.K. Dutta was present in the meeting and affirmed that the

			mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi Mechanized. Jack Hammer, Drilling & Blasting to be used	
2	Quarry Area	:	5 years–1.75 ha	Life of Mine – 1.91ha
3	Waste Generation	:	5 years– Nil	Life of Mine – Nil
4	Stripping Ratio	:	0:1	
5	Working Days	:	300	
6	Benches: size & No	:	3m x 3m	
7	Elevation of Mine	:	242m AMSL	
8	Ground Level Elevation		195 m AMSL	
9	Ultimate Working Depth	:	180m AMSL	
10	Water Table	:	120 m to 125m AMSL	
11	Topography of Mine	:	Hill	
12	Explosive Requirement	:	31.02 kg/day	
13	Diesel/Fuel requirement	:	Nil	

Production Details

Years	Production In Cum/Year	Production In Tons/Year	OB
1st	90016	243043	0
2nd	91060	245862	0
3rd	92220	248994	0
4th	91930	248211	0
5th	92510	249777	0
Total	**4,57,736**	**12,35,887**	0

Land Use

SL	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Mining Area	0.00	1.75	1.91	Water Body

2	Office /Store	0.00	0.00	0.00	
3	Crusher	0.00	0.00	0.00	
4	Road	0.00	0.01	0.00	
5	Garland Drain	0.00	0.00	0.00	
6	Safety Zone	0.00	0.94	0.94	Plantation
7	Settling Tank	0.00	0.00	0.00	
8	Unutilized	2.85	0.15	0.00	
	TOTAL	**2.85**	**2.85**	**2.85**	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.94 ha	2350 trees @ 2500 trees per ha
2	Other Reclaimed Area	:	NIL	NIL
3	Haul /Approach Road	:	0.12KM	160 trees on both sides – 3 m distance

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall becollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, dischargefrom Soak Pit, if any shall be used for plantation.

- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

- **EMP BUDGET**

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 900 per Tanker)	--	2,70,000
2	Plantation 160 X 237.5 = Rs38000 (Gabion Plantation along approach road) 2350 X 400 = 9,40,000 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	9,78,,000	1,06,800
3	Fencing	90,000	
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610** **(Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	2,03,220
Total		**Rs10,68,000**	**Rs5,80,020**

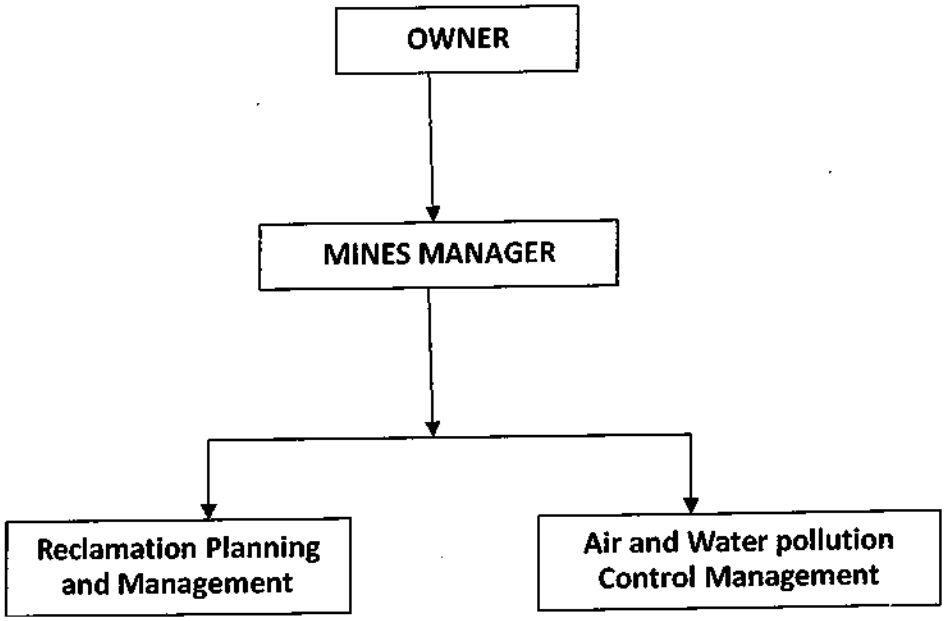
Environment Monitoring Programme

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	One Day Monitoring (within 6 months).
2.	Water	2 stations	One Day Monitoring (within 6 months)
3.	Soil	3 stations	One Day Monitoring (within 6 months)
4.	Noise	3 stations	One Day Monitoring (within 6 months)

Solid Waste Management

67080cum. O.B shall be generated during the plan period which shall be backfilled within the exhausted quarry.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.

- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul Road by using water Tankers.
- ✓ Regular repair of Haul Road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.

C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	*15*	12	9	6	3
C4 (Minor)	*20*	*16*	12	8	4
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
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5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident,	Remote	Minor	16

		Exposure to Dust			

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

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Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

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- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

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- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

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The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
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Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.

- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an

interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

i. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

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24. Amarpur Mako-2 Stone Mine of M/s Geeta Stone Works, Village : Amarpur Mako - 2, P.S. : Barhait, Distt. : Sahibganj, Jharkhand (2.985 Ha).

(Proposal no.: SIA/JH/MIN/ 524366 /2025)

Name of the consultant : Palle Business House, Hyderabad, Telangana.

This is an amendment project which has been listed for appraisal on 08.05.2025. On the request of PA it has been taken up for consideration on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Boulder Stone: 515700 Ton / Year.

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Amarpur Mako-2 Stone Mine	
2	Lessee:	:	M/s Geeta Stone Works Proprietor - Sri Deepak Kumar Choudhary.	
3	Lease Address	:	At- Amarpur Mako-2, Tehsil : Barhait, Thana– Barhiat, Dist.: Sahebjanj, Jharkhand	
4	Lease Area	:	Ha:2.985 Ha	Acres: 7.37 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	39.80 Lakhs	
7	EMP Budget	:	Capital: 10.80 Lakhs	Recurring: 4.00 Lakh / year
8	CSR / CER Budget	:	Rs. 2.00 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Tonnes:50,27,400Tonnes	
11	Mine Life	:	10 years	
12	Man power	:	21	
13	Water Requirement	:	10 KLD (Drinking: 2KLD,Dust Suppression:06 KLD, Plantation:2 KLD)	
14	Water Source	:	From Nearbyriver or by tankers	
15	DG Set / power	:	No	
16	Crusher	:	No	
17	Nearest Water Body	:	River5.35 KM	
18	Nearest Habitation	:	RaghunathpurVillage: 2.1 KM; Barharwa 12.6 KM	
19	Nearest Rail Station	:	Barharwa 12.6 km	
20	Nearest Air Port	:	Deoghar129.1 KM	
21	Nearest Forest	:	Notified forest -300m	
22	Road & Highways	:	NH-133A – 11.7 KM; SH – 8.50 KM	

CO-ORDINATES

1	Latitude		From 24°50'40.328"N	To 24° 50' 47.641" N

2	Longitude		From 87° 38' 43.521"	To 87° 38' 53.767" E

LAND DETAILS

Khata no.	Plot no.
01, 15, 17, 14 & 10	64 (P), 71 (P), 77 (P), 80 (P), 81 (P) & 146 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 22.08.2023 to 21.08.2033.
2	CO	:	The CO, Barhait, Sahibganj vide letter no. 268/Ra., dated 31.05.2019 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 803/M, dated 09.05.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2033, dated 21.09.2019 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Lake Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 801, dated 15.06.2019 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 136, Page no. 289).
7	Gram Sabha	:	Gram Sabha conducted on 24.05.2019.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 317/M, dated 24.04.2024.
9	Grid Certificate	:	DMO, Sahibganj vide memo no. 551/M, dated 24.03.2025 certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
10	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 551/M, dated 24.03.2025.
11	Previous Environmental Clearance	:	Previous EC granted by SEIAA vide letter no. EC/SEIAA/2018-19/2224/2019/684, dated 08.11.2019.

12	Qualified Person	:	Shri Ravi Prakash vide letter dated 08.05.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi Mechanized. Jack Hammer, Drilling & Blasting to be used	
2	Quarry Area	:	5 years–2.002 ha	Life of Mine – 2.002ha
3	Waste Generation	:	5 years– Nil	Life of Mine – Nil
4	Stripping Ratio	:	0:1	
5	Working Days	:	300	
6	Benches: size & No	:	3m x 3m	
7	Elevation of Mine	:	129 to 195mtAMSL	
8	Ground Level Elevation		116mt AMSL	
9	Ultimate Working Depth	:	100 mtAMSL	
10	Water Table	:	70 mtAMSL	
11	Topography of Mine	:	Hilly	
12	Explosive Requirement	:	1517.125 kg/month	
13	Diesel/Fuel requirement	:	NIL	

Production Details

Year	Production of stone (Cum)	Production of stone (Tons)	OB
1st	191000	515700	0
2nd	191000	515700	0
3rd	191000	515700	0
4th	191000	515700	0
5th	191000	515700	0
Total	**9,55,000**	**25,78,500**	**0**

Land Use

SL	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Mining Area	0.00	2.002	2.002	Water Body
2	Office /Store	0.00	0.00	0.00	

3	Crusher	0.00	0.00	0.00	
4	Road	0.00	0.00	0.00	
5	Garland Drain	0.00	0.00	0.00	
6	Safety Zone	0.00	0.983	0.983	Plantation
7	Settling Tank	0.00	0.00	0.00	
8	Unutilized	2.985	0.00	0.00	
	TOTAL	**2.985**	**2.985**	**2.985**	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.983 ha	2400 trees @ 2500 trees per ha
2	Other Reclaimed Area	:	NIL	NIL
3	Haul /Approach Road	:	1.2 KM	1600 trees on both sides – 3 m distance

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall becollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, dischargefrom Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

EMP BUDGET

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 1600 X 175 = Rs2,80,000 (Gabion Plantation along approach road) 2400 X 250 = 6,00,000 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	8,80,000	-
3	Fencing	200000	
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.20000 • Ground Water (2 point) -Rs.6000 • Noise 24 hrs (3 point) -Rs.10000 • Soil (3 point) -Rs.14000 **Total -Rs. 50000 (Per Season)** **At least two seasons in a Year -Rs. 50000 x 2 = Rs. 100000** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	1,00,000
Total		**Rs1080000**	**Rs400000**

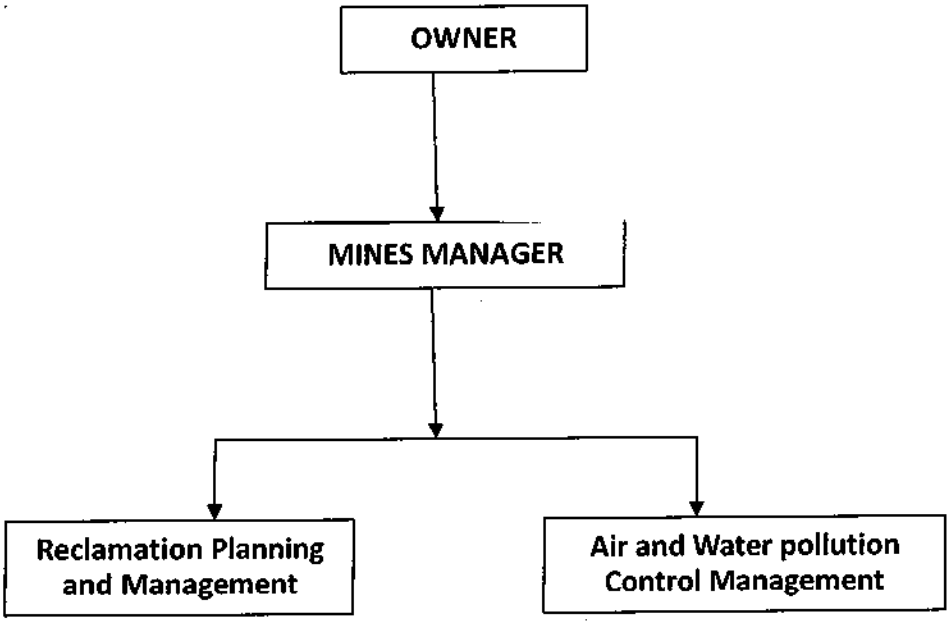
Environment Monitoring Programme

SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	One Day Monitoring (within 6 months)
2.	Water	2 stations	One Day Monitoring (within 6 months)
3.	Soil	3 stations	One Day Monitoring (within 6 months)
4.	Noise	3 stations	One Day Monitoring (within 6 months)

Solid Waste Management

67080cum. O.B shall be generated during the plan period which shall be backfilled within the exhausted quarry.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.

- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul Road by using water Tankers.
- ✓ Regular repair of Haul Road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.

C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident,	Remote	Minor	16

		Exposure to Dust			

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

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- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

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The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Amarpur Mako-2 Stone Mine of M/s Geeta Stone Works, Village : Amarpur Mako - 2, P.S. : Barhait, Distt. : Sahibganj, Jharkhand (2.985 Ha) is recommended for grant of amended EC with the same terms & conditions as mentioned in earlier EC letter no. EC/SEIAA/2018-19/2224/2019/684, dated 08.11.2019 shall remain the same alongwith the various conditions for grant of EC as enclosed in Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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25. Binderi Bandarkola Stone Mine of M/s Choudhary Enterprises (Partner : Shri Pawan Kumar Choudhary & Other), Village : Binderi Bandarkola, Thana : Borio, Distt. : Sahibganj, Jharkhand (2.934 Ha).

(Proposal no.: SIA/JH/MIN/ 535668 /2025)

Name of the consultant : Palle Business House, Hyderabad, Telangana.

This is a new project which has been taken for appraisal on 08.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for Boulder Stone:166170Cu.m. / Year i.e. 448659 TPA

PROJECT and LOCATION Details:

Sl	Parameter		Details	
1	Project Name	:	Binderi Bandarkola Stone Mine	
2	Lessee:	:	M/s Choudhary Enterprises Partner- Pawan Kumar Choudhary & other	
3	Lease Address	:	Mouza –Binderi Bandarkola,Thana-Borio,ThanaNo.-07,Dist.-Sahibganj(Jharkhand)	
4	Lease Area	:	Ha:2.934 Ha	Acres:7.25 Acres
5	Type of Land	:	Non Forest – Rayati Land	
6	Project Cost	:	42.60 Lakhs	
7	EMP Budget	:	Capital: 11.60 Lakhs	Recurring: 7.0 Lakh / year
8	CSR / CER Budget	:	Rs. 2.13 Lakhs	
9	New or Expansion	:	New Project	
10	Mineable Reserves	:	Cu.m.:1661265Cu. M.	Tonnes:4485416Tonnes
11	Mine Life	:	10 years	
12	Man power	:	21	
13	Water Requirement	:	10 KLD (Drinking: 2KLD,Dust Suppression:06 KLD, Plantation:2 KLD)	
14	Water Source	:	From Nearbyriver by tankers	
15	DG Set / power	:	No	
16	Crusher	:	No	
17	Nearest Water Body	:	Morang River 2.7 KMwest	
18	Nearest Habitation	:	Dumaria Village: 1.5 KM; Borio :5.0 KM	
19	Nearest Rail Station	:	Barharwa Railway Station is at areal distance of 46.5 km South direction.	
20	Nearest Air Port	:	Deoghar Airport is at areal distance of 143 km S-W	
21	Nearest Forest	:	865M southern side as per Soltoposheet	
22	Road & Highways	:	State Highway SH-18, Approx. 2.0 Km (West Direction)	

CO-ORDINATES

1	Latitude		From : $25^0$02'22.541" N	To $25^0$02'26.362" N
2	Longitude		From : $87^0$37'40.054" E	To $87^0$37'51.140" E

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LAND DETAILS

Khata no.	Plot no.
52 & 31	645 (P) & 657 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 186/M, dated 07.02.2025.
2	CO	:	The CO, Borio, Sahibganj vide memo no. 633/Ra., dated 24.08.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster and Grid Certificate	:	DMO, Sahibganj vide memo no. 259/M, dated 13.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
4	DFO Wild Life	:	DFO – cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1312, dated 28.06.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Division Forest Officer, Sahibganj Forest Division vide letter no. 1297, dated 28.06.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has been certified vide memo no. 690/M, dated 25.04.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 197).
7	Gram Sabha	:	Gram Sabha conducted on 08.07.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 703/M, dated 25.04.2025.
9	Qualified Person	:	Shri S.K. Dutta was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi Mechanized. Jack Hammer, Drilling & Blasting to be used	
2	Quarry Area	:	5 years–1.671 ha	Life of Mine – 1.964ha
3	Waste Generation	:	5 years– Nil	Life of Mine – Nil

4	Stripping Ratio	:	0:1
5	Working Days	:	300
6	Benches: size & No	:	3m x 3m
7	Elevation of Mine	:	210mt AMSL
8	Ground Level Elevation		180 mtAMSL
9	Ultimate Working Depth	:	130mt AMSL
10	Water Table	:	85mtAMSL
11	Topography of Mine	:	Hill
12	Explosive Requirement	:	31.02 kg/day
13	Diesel/Fuel requirement	:	

Production Details

Years	Production In Cum/Year	Production In Tons/Year	OB
1st	**154080**	**416016**	**0**
2nd	**137640**	**371628**	**0**
3rd	**166170**	**448659**	**0**
4th	**166170**	**448659**	**0**
5th	**162000**	**437400**	**0**
Total	**786060**	**2122362**	**0**

Land Use

SL	Pattern	Existing Land Use (Ha)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
1	Mining Area	0.00	1.671	1.964	Water Body
2	Site infrastructure	0.00	0.161	0.00	
3	Crusher	0.00	0.00	0.00	
4	Road	0.00	0.01	0.00	
5	Garland Drain	0.00	0.00	0.00	
6	Safety Zone	0.00	0.97	0.97	Plantation

7	Settling Tank	0.00	0.00	0.00	
8	Unutilized	2.934	0.122	0.00	
	TOTAL	**2.934**	**2.934**	**2.934**	

ENVIRONMENT MANAGEMENT

Green Belt Development

SL	LOCATION		Area/Length	No of Trees
1	Safety Zone	:	0.97 ha	2425 trees @ 2500 trees per ha
2	Other Reclaimed Area	:	NIL	NIL
3	Haul /Approach Road	:	1.KM	1134 trees on 2 rows on both sides – 3 m distance

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation.Excess water, if any shall be discharged in natural stream after settling of suspendedparticles in the pit. Pump having required capacity will be installed to liftaccumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall becollected in garland drain and allowed to settle in a small pit for settling suspendedparticles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, dischargefrom Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and goodsanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.

- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha' road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask etc shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months

- **EMP BUDGET**

Sl. No.	Particulars	Capital Cost in Rs.	Recurring Cost in Rs. per year
1	Water facility for Dust Suppression, watering plants etc. (Rs. 1000 per Tanker)	--	3,00,000
2	Plantation 1134 X 335.978 = Rs3,81,000 (Gabion Plantation along approach road) 2425 X 300 = 6,79,500 (Plantation within lease area) (also includes Fertilizer, Pesticides, Maintenance)	10,60,000	2,00,000
3	Fencing	1,00,000	1,00,000
4	Environmental Monitoring (One Day Monitoring) • Ambient Air 24 hrs (3 point) -Rs.27,270 • Ground Water (2 point) -Rs.12,420 • Noise 24 hrs (3 point) -Rs.21,000 • Soil (3 point) -Rs.40,920 **Total -Rs. 1,01,610** **(Per Season)** **At least two seasons in a Year -Rs. 1,01,610 x 2** **= Rs. 2,03,220** **Source: Central Pollution Control Board Notification, New Delhi, the 23rd February, 2022**	--	1,00,000
Total		**Rs11,60,000**	**Rs7,00,000**

Environment Monitoring Programme

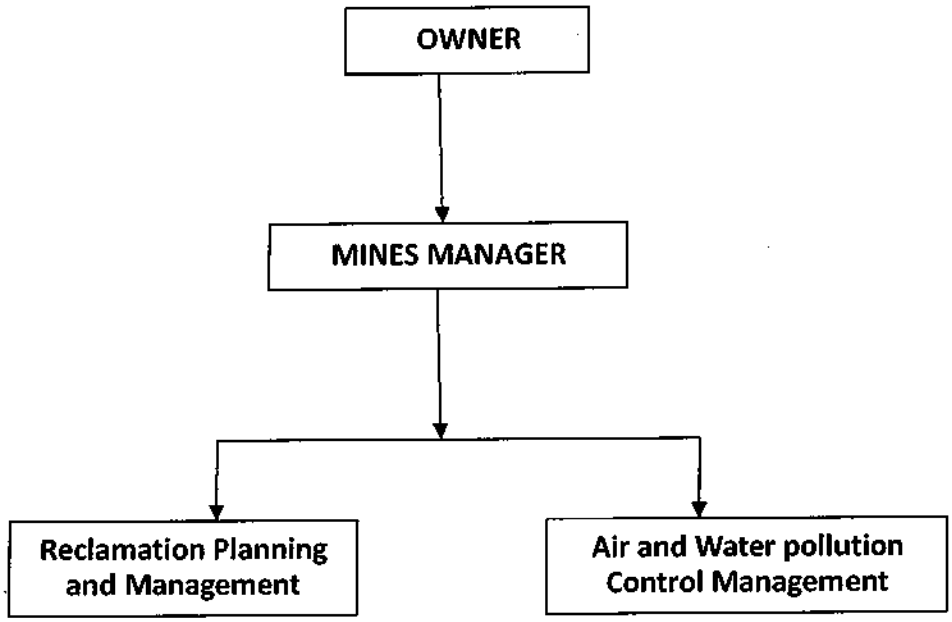
SL. No.	Description	No. Of Monitoring Stations	Duration
1.	Air	3 stations	One Day Monitoring (within 6 months)
2.	Water	2 stations	One Day Monitoring (within 6 months)

3.	Soil	3 stations	One Day Monitoring (within 6 months)
4.	Noise	3 stations	One Day Monitoring (within 6 months)

Solid Waste Management

67080cum. O.B shall be generated during the plan period which shall be backfilled within the exhausted quarry.

Organization Structure



Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.
Blasting – Blasting generates gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.
Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.
Movement of Trucks on Road – Movement of Trucks on Road generate dust for mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul Road by using water Tankers.
- ✓ Regular repair of Haul Road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT
The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, thereby requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.
The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.
The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried In the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

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k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Binderi Bandarkola Stone Mine of M/s Choudhary Enterprises (Partner : Shri Pawan Kumar Choudhary & Other), Village : Binderi Bandarkola, Thana : Borio, Distt. : Sahibganj, Jharkhand (2.934 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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Day 3 : May 09th, 2025 [Friday]

Consideration of proposals

1. **Residential cum Commercial Project "Royal Palms" of M/s Loyala Maurya Estates Pvt. Ltd., Mouza : Pundag, Town : Ranchi, Distt. : Ranchi, Jharkhand.**

(Proposal no.: SIA/JH/INFRA2/ 532332 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 8(b) Township and Area Development Project, Category: B1.

Application for Terms of Reference (ToR) as per EIA notification, 2006.

ToR Application for: Proposed Residential cum Commercial project "Royal Palms", 59, 65, 62, 60, 75, 78, 79, 80, 81, 67, 70, 71, 72, 73, 74, 76, 118, 119, 92, 93, 94 khata no. 56, 106, 263, 491, 290, 247, 178, 92, 108 on Muza Pundag, Town-Ranchi, District-Ranchi, Jharkhand.

Built-up Area: 2,24,916 sq. meter

PROJECT and LOCATION Details:

Parameters	Description
Total Plot Area	10.53 Acre or 42616 Square meter
Project Cost	INR 330 Crores
Built-up Area (@3.0 F.A.R)	2,24,916 sq. m.
Green Area (@ 20% of plot area)	8523.20 Square Meter
Population	3939
Water Requirement	414 KLD
Fresh Water Requirement	254 KLD
Wastewater Generation	389 KLD
Treatment facility if waste water	STP of 400 KLD
Total Municipal Waste	1827 kg/day
Power Requirement	Maximum power demand for the project during operation phase is estimated to be 5000 kVA respectively. Source of power will be Jharkhand State Electricity Board.
DG Sets	2 no. of DG set of (2 * 1010 KVA)= 2020 kVA
RWH Pits	20 nos.

Parking Number	Car -799 Scooter-900
Nearest Road	Argora Road (approx 0.31 km, East)
Nearest Railway Station	Ranchi Junction Railway station (approx 8.0 km, East)
Nearest Airport	Birsa Munda Airport (Ranchi), (approx 8.41 km, SE)
Nearest Hospitals	Raj Hospital (approx 3.03 km ,East)
Nearest Water Bodies	Dhurwa Dam (approx, 6.50 km, South)

CO-ORDINATES

Point in Image	Latitude	Longitude
A	23°21'14.71" N	85°15'04.94"E
B	23°21'14.13"N	85°15'06.69"E
C	23°21'21.11"N	85°15'08.54"E
D	23°21'25.16"N	85°15'10.15"E
E	23°21'19.37"N	85°15'10.94"E
F	23°21'16.76"N	85°15'11.72"E
G	23°21'22.24"N	85°15'12.77"E
H	23°21'24.47"N	85°15'14.11"E
I	23°21'21.67"N	85°15'14.56"E
J	23°21'21.54"N	85°15'14.97"E
K	23°21'27.14"N	85°15'15.76"E
L	23°21'28.90"N	85°15'16.20"E
M	23°21'26.66"N	85°15'17.00"E
N	23°21'25.60"N	85°15'18.44"E
O	23°21'28.31"N	85°15'19.42"E

LAND DETAILS

Khata no.	Plot no.
6, 106, 263, 491, 290, 247, 178, 92 & 108	118, 119, 59, 65, 62, 60, 75, 78, 79, 80, 81, 67, 70, 71, 72, 73, 74, 76, 92, 93 & 94

AREA STATEMENT

S. No.	Description	Proposed area after expansion (sq m)
1.	Plot Area	42616
2.	Net Plot area	42616
3.	Ground Coverage (@33 %	14063.28
4.	FAR @3.091	131726
5.	Non-FAR Area including basement area	93190
6.	**Built-up Area**	**2,24,916**
7.	Green Area (20%)	8523.2
8.	Green belt (15 %)	6392.4
9.	Area of Internal Road	10010
10.	Pavement Area	2500
11.	Height	40meter

Statutory Clearances :

1	Land Docs	:	Joint development agreement.
2	DFO Territorial	:	DFO, Ranchi Forest Division vide letter no. 85, dated 09.01.2025 certified that the distance of reserved / protected forest is more than 250 meters from project site.
3	DFO Wildlife	:	DFO, Wildlife Division, Ranchi vide letter no. 962, dated 05.12.2024 certified that proposed project site is out side Eco Sensitive Zone of Palkot Wildlife Sanctuary.
4	CO certificate	:	The CO, Nagri, Ranchi vide letter no. 137 (ii), dated 30.01.2025 has mentioned the plot no. of the project is not recorded as "Jaugle - Jhari" in R.S. Khatiyan.
5	AAI NOC	:	Airport authority of India issued NOC vide NOC ID no. RANC /EAST /B/ 060822/676382, dated 23.06.2022 valid up to 22.06.2030.
6	Building Plan approval	:	Conceptual Plan submitted.
7	Fire Department	:	Fire Advisory has been issued by Fire Department, Jharkhand, Ranchi, vide memo no. 2724/Tech./2020, dated 14.12.2020.

Water Requirement Details

Category	Population/Area (sq m)/Capacity	Standard (LPCD)	Water Requirement (KLD)	Fresh Water Requirement (KLD)	Recycled Water requirement(KLD)
Domestic (Residential)					
Residents	3295	100	330	231	99
Staff	165	45	8	6	2
Visitors	329	15	5	3	2
Domestic (Hotel)					
Residents	86	180	16	11	5
Staff	55	45	3	2	1
Visitors	9	15	2	1	1
Total Domestic Water Demand			**364**	**254**	**110**
Landscape	8523.2 Sq.m	3ltr/sqm	25	-	25
DG Cooling		0.9l/KVA/hr	15	-	15
Fire Fighting			10	-	10
Total			**414**	**254**	**160**

(D.G. sets operation period is 8 hrs.)

Wastewater Calculations

Category	Total Quantity (KLD)
Domestic water Req.	414
Flushing water Req.	160
Sewage generation (@90% of the fresh + 100% flushing water requirement)	389
Capacity of STP	**400**
Recovered water from STP (90% of Waste water) 1. Flushing	350

2. Landscaping	160
3. Fire Fighting	25
4. DG Cooling	15
5. Discharge to Sewer/Road/Car washing	10
	140

Solid Waste Requirement

S. No	Description	Occupancy/Area	kg/capita/day	Total Solid Waste Generation (kg/day)	Recyclable (kg/day)	Non Recyclable (kg/day)
1.	Residents	3381	0.5	1690	1352	338
2.	Staff	220	0.25	55	44	11
3.	Visitors	338	0.15	51	41	10
6.	Landscape waste	8523.2 SQM i.e 2.10 acres	0.2 kg/acres	0.42	0.42	--
7.	STP sludge	389 KLD	--	30	30	--
Total Waste Generated				**1827**	**1468**	**359**

ENVIRONMENT MANAGEMENT

Green Belt Development

- Combination of local trees and shrubs are planned within the project site.
  - Total green area provided at the site is 8523.2 sq m (20 % of the plot area) which will enhance the beauty of the site and help combat air and noise pollution.
- The plant species will be selected on the basis of Guidelines for Developing Green Belts, CPCB March 2000.

Solid Waste Management

During Construction Phase

- Construction yards are proposed for storage of construction material.
- Excavated top soil will be stored in temporary constructed soil bank and will be reused for landscaping of the project.
- Remaining soil will be utilized for refilling/road work/raising of site level at locations.
- There will be "Refuse Containers" at site for the management of domestic waste generated by the construction labourers and these containers will be emptied at least once daily.
- Cement bags, waste paper and packing material (cardboard) will be sold off to recyclers.

During Operation Phase

- The solid waste will be segregated at source & collected.
- Adequate number of colored bins (green, white & Black) separate for bio-degradable, non-biodegradable and Hazardous waste are proposed to be provided at the strategic location within site.
- Bio-degradable (will be composted through organic waste converter).
- Recyclable wastes will be disposed to govt. or SPCB approved third party vendors.
- Dewatered sludge can be buried underground in a sanitary landfill. It also may be spread on agricultural land in order to make use of its value as a soil conditioner and fertilizer.
- The Hazardous waste generated will be managed as per the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016.
- Horticultural Waste is composted and used for gardening purposes.

Water Quality Management

During Construction Phase

- The site drainage will be planned in such a way that there is no accumulation of water/wastewater within the project premises or in the vicinity of the site.
- Mobile toilets to be provided for construction Laborers.
- Generated waste water will be collected through tankers and dispose to septic tank for treatment.

During Operation Phase

- STP of capacity i.e. 400 KLD or STP is proposed for treatment of wastewater.
- Treated waste water would be reused for Flushing, Landscaping, Road Washing &Misc
- Use of water efficient plumbing fixtures to conserve water.
- Approx. 254 KLD of fresh water is required during operational phase of the project.

Air Quality Management

- Warehouse/stock yard will be provided for storage of construction material
- Covering of stored construction materials with tarpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions.
- Periodical Ambient Air Quality Monitoring.
- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

- Energy will be conserved via solar power & LED of at least 5 % of the total power requirement.

Undertaking

- An undertaking that 350 KLD recycles wastewater generated at Residential cum commercial project "Royal Palm" of M/s Loyala Maurya Estate Pvt. Ltd at plot no. 118,119,59,65,62,60,75,78,79,80,81,67,70,71,72,73,74,76,118,119,92,93,94, khata no 56,106,263,491,290,247,172,92,108 at Muza Pundag, Town-Ranchi, District-Ranchi, Jharkhand
- An undertaking that 5000 kVA Power requirement in Residential cum commercial Project Royal Palm" located in Ranchi City of M/s Loyala Maurya Estate Pvt. Ltd at plot no. 118,119,59,65,62,60,75,78,79,80,81,67,70,71,72,73,74,76,118,119,92,93,94, khata no 56,106,263,491,290,247,172,92,108. at Muza Pundag, Town-Ranchi, District-Ranchi, Jharkhand
- An undertaking that no ground water will be used with any prior approval from CGWA.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure V alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

VI. Developers to offsets energy consumption by solar generation of not less than 05 % of connected load.

VII. Trees should be developed & maintained not less than 15% of project area.

VIII. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.

IX. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

X. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is harvested including usage within the premises only on 100% basis.

XI. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XII. Water runoff originating from open non constructed areas of project premises to be harvested /guided in such a way that it does not create water logging condition outside.

XIII. Sufficient number of EV fast charging stations to be installed.

XIV. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XV. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

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2. **Residential cum Commercial Project "OAK Courtyard" of M/s Nisith Keshari Construction Pvt. Ltd., Mouza : Pundag, Anchal : Nagri, P.S. : Jagarnathpur, Distt. : Ranchi, Jharkhand.**

(Proposal no.: SIA/JH/INFRA2/ 535469 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 8(a) Building and Construction Projects , Category: B2.

Application for Environmental Clearance (EC) as per EIA notification, 2006.

EC Application for: Proposed Residential cum Commercial project "Oak Courtyard" Thana no.- 228, Khasra no. – 5067, 5068 & 5077 Khata no – 21, 224, Anchal- Nagri, P.S- Jagarnathpur, Village- Pundag, District-Ranchi, State-Jharkhand

Built-up Area: 26561.59 sq. meter

PROJECT and LOCATION Details:

Parameters	**Description**
Total Plot Area	5575.44 Square meter
Project Cost	INR 35 Crores
Built-up Area (@3.0 F.A.R)	26561.59 sq. m. (Existing BUA 13859.89 Sq. Meter+

	Proposed 12701.7 Sq. Meter)
Green Area (@ 26% of plot area)	1450 Square Meter
Population	1196
Water Requirement	104 KLD
Fresh Water Requirement	66 KLD
Wastewater Generation	87 KLD
Treatment facility if waste water	STP of 100 KLD
Total Municipal Waste	495 kg/day
Power Requirement	Maximum power demand for the project during operation phase is estimated to be 550 kVA. Source of power will be Jharkhand State Electricity Board.
DG Sets	1 no. of DG set of =270 kVA
RWH Pits	4 nos.
Parking Number	Car -173 Scooter-200
Nearest Road	Bypass Road (approx 2.75 km, East)
Nearest Railway Station	Ranchi Junction Railway station (approx 6.28 km,NE)
Nearest Airport	Birsa Munda Airport (Ranchi), (approx 5.5 km, SE)
Nearest Hospitals	City Hospital (approx 3.75 km ,NE)
Nearest Water Bodies	Dhurwa Dam (approx, 4.5 km, SW)

CO-ORDINATES

Point as in Maps	**Latitude 23°21'5.84"N**	**Longitude 85°19'29.11"E**
1.	23°20'03.07"N	85°16'29.01"E
2.	23°20'05.26"N	85°16'29.69"E
3.	23°20'02.53"N	85°16'29.79"E
4.	23°20'02.72"N	85°16'29.89"E
5.	23°20'05.17"N	85°16'30.50"E
6.	23°20'02.50"N	85°16'30.57"E

7.	23°20'01.43"N	85°16'30.93"E
8.	23°20'02.68"N	85°16'31.83"E
9.	23°20'01.93"N	85°16'31.88"E
10.	23°20'03.30"N	85°16'31.93"E
11.	23°20'04.76"N	85°16'32.01"E
12.	23°20'04.31"N	85°16'32.09"E
13.	23°20'03.30"N	85°16'32.14"E
14.	23°20'03.92"N	85°16'32.24"E

LAND DETAILS

Khata no.	Plot no.
21 & 224	5067, 5068 & 5077

AREA STATEMENT

S. No.	Description	Area (sq m) Existing	Area (sq m) Proposed	Area (sq m) Total
1	**Plot Area**	**3187.52**	**2388**	**5575.44**
1.	Buildup Area	13859.89	12701.7	26,561.59
2.	FAR Area	9455.65	7540.85	16,996.5
3.	Non FAR Area	4607.08	5264.47	9871.55
4.	Proposed Ground Coverage (33.10% of of plot area)	1845.53		
5.	Nos. of Shops	40 nos		
6.	Green Area (26 % of Plot Area	1450		
7.	Green Belt (15 % of Plot Area)	836.316		
8.	Height (m)	34.41		
9.	Floor details	10 floors + Terrace		
10.	No. of Flat	133 -3 BHK 10- 2 BHK		

Statutory Clearances :

1	Land Docs	:	Development agreement : Nisith Keshri Constructions Private Limited.
2	DFO Territorial	:	DFO, Ranchi Forest Division vide letter no. 976, dated 08.04.2025 certified that the distance of reserved / protected forest is more than 250 meters from project site.

3	DFO Wildlife	:	DFO, Wildlife Division, Ranchi vide letter no. 188, dated 27.03.2025 certified that proposed project site is out side Eco Sensitive Zone of Palkot Wildlife Sanctuary.
4	CO certificate	:	The CO, Nagri, Ranchi vide letter no. 01, dated 08.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle - Jhari" in R.S. Khatiyan.
5	AAI NOC	:	Airport authority of India issued NOC vide NOC ID no. RANC /EAST /B/ 082723/780956, dated 25.09.2023 valid up to 24.09.2031.
6	Building Plan approval	:	Conceptual Plan submitted.
7	Fire Department	:	Fire Advisory has been issued by Fire Department, Jharkhand, Ranchi, vide memo no. 443/Tech./2025, dated 17.01.2025.

Water Requirement Details

Category	Population/Area(sq m)/Capacity	Standard(LPCD)	Water Requirement -KLD	Fresh Water Requirement -KLD	Recycled Water requirement-KLD
Domestic					
Residents	848	100	85	60	25
Staff	69	45	4	3	1
Visitors	279	15	4	3	1
Total Domestic Water Demand			**93**	**66**	**27**
Landscape	1450 sq m	6 l/Square	9	0	9
Fire Fighting	--	--	2	--	2
Total			**104**	**66**	**38**

Wastewater Calculations

Category	Total Quantity (KLD)
Domestic water Req.	93
Flushing water Req.	27
Sewage generation (@90% of the fresh + 100% flushing water requirement)	87
Capacity of STP	**100**
Recovered water from STP (90% of Waste water) 1. Flushing 2. Landscaping 3. Fire Fighting 4. Discharge to Sewer/Road/Car washing	78 27 9 2 40

Solid Waste Requirement

S. No	Description	Occupancy/Area	kg/capita/day	Total Solid Waste Generation (kg/day)	Recyclable (kg/day)	Non-Recyclable (kg/day)
1.	Residents	848	0.5	424	297	127
2.	Staff	69	0.25	18	13	5
3.	Visitors	279	0.15	42	30	12
5.	Landscape waste	0.35 acres	0.2	1	1	--
5.	STP sludge	100 KLD	--	10	10	-
Total Waste Generated				**495**	**351**	**144**

ENVIRONMENT MANAGEMENT

Green Belt Development

- Combination of local trees and shrubs are planned within the project site.
  - Total green area provided at the site is 1450 sq m (26 % of the plot area) which will enhance the beauty of the site and help combat air and noise pollution.
- The plant species will be selected on the basis of Guidelines for Developing Green Belts, CPCB March 2000.

Solid Waste Management

During Construction Phase

- Construction yards are proposed for storage of construction material.
- Excavated top soil will be stored in temporary constructed soil bank and will be reused for landscaping of the project.
- Remaining soil will be utilized for refilling/road work/raising of site level at locations.
- There will be "Refuse Containers" at site for the management of domestic waste generated by the construction labourers and these containers will be emptied at least once daily.
- Cement bags, waste paper and packing material (cardboard) will be sold off to recyclers.

During Operation Phase

- The solid waste will be segregated at source & collected.
- Adequate number of colored bins (green, white & Black) separate for bio-degradable, non-biodegradable and Hazardous waste are proposed to be provided at the strategic location within site.
- Bio-degradable (will be composted through organic waste converter).
- Recyclable wastes will be disposed to govt. or SPCB approved third party vendors.
- Dewatered sludge can be buried underground in a sanitary landfill. It also may be spread on agricultural land in order to make use of its value as a soil conditioner and fertilizer.
- The Hazardous waste generated will be managed as per the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016.

- Horticultural Waste is composted and used for gardening purposes.

Water Quality Management

During Construction Phase

- The site drainage will be planned in such a way that there is no accumulation of water/wastewater within the project premises or in the vicinity of the site.
- Mobile toilets to be provided for construction Laborers.
- Generated waste water will be collected through tankers and dispose to septic tank for treatment.

During Operation Phase

- STP of capacity i.e. 100 KLD or STP is proposed for treatment of wastewater.
- Treated waste water would be reused for Flushing, Landscaping, Road Washing &Misc
- Use of water efficient plumbing fixtures to conserve water.
- Approx. 66 KLD of fresh water is required during operational phase of the project.

Air Quality Management

- Warehouse/stock yard will be provided for storage of construction material
- Covering of stored construction materials with tarpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions.
- Periodical Ambient Air Quality Monitoring.
- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

- Energy will be conserved via solar power & LED of at least 5 % of the total power requirement.

Undertaking affirming that :

- An undertaking that 87 KLD recycles wastewater generated at **Oak Courtyard" Thana no.- 228, Khasra no. – 5067, 5068 & 5077 Khata no – 21, 224, Anchal- Nagri, P.S- Jagarnathpur, Village- Pundag, District- Ranchi, State-Jharkhand**
- An undertaking that 550 kVA Power requirement in Residential cum commercial Project **Oak Courtyard" Thana no.- 228, Khasra no. – 5067, 5068 & 5077 Khata no – 21, 224, Anchal-Nagri, P.S- Jagarnathpur, Village- Pundag, District- Ranchi, State-Jharkhand**
- An undertaking that no ground water will be used with any prior approval from CGWA

Based on the presentation made and information provided, the Committee decided that the proposal for Residential cum Commercial Project "OAK Courtyard" of M/s Nisith Keshari Construction Pvt. Ltd., Mouza : Pundag, Anchal : Nagri, P.S. : Jagarnathpur, Distt. :

Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –I alongwith the following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

VI. Developers to offsets energy consumption by solar generation of not less than 02 % of connected load.

VII. Trees should be developed & maintained not less than 15% of project area.

VIII. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.

IX. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

X. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is harvested including usage within the premises only on 100% basis.

XI. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XII. Water runoff originating from open non constructed areas of project premises to be harvested /guided in such a way that it does not create water logging condition outside.

XIII. Sufficient number of EV fast charging stations to be installed.

XIV. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XV. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

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3. **Expansion of Residential Project "OAK Elegance" of M/s Nisith Keshari Construction Pvt. Ltd., Village : Pundag, Thana : Argora, Distt. : Ranchi, Jharkhand.**

(Proposal no.: SIA/JH/INFRA2/ 493557 /2024)

Name of the consultant : P & M Solution, Noida, U.P.

This is an expansion project which has been taken for appraisal on 09.05.2025.

Project Sector: 8(a) Building and Construction Projects , Category: B2.

Application for Environmental Clearance (EC) as per EIA notification, 2006.

EC Application for: Expansion of Residential Project "OAK Elegance" of M/s Nisith Keshari Constructions Pvt. Ltd.:Total built-up area 76600 sq m (Existing= 52485.98 sq m & Proposed=24114.02 sq m).
Earlier EC was granted under violation category for the build up area 52485.98 sq.m vide SEIAA Letter No - EC/SEIAA/2022-23/2497/2022, Dated- 20-09-2022.

PROJECT and LOCATION Details:

Parameters	Description
Plot Area	19046.93 sq m (1.86 ha/4.61 acres)
Project Cost	INR 61 crores (Existing = INR 45 Cr. & Proposed =INR 16 Cr.)
Built-up Area	76600 sqm (Existing=52485.98 sqm & Proposed=24114.02 sqm)
Green Area (@ 15% of plot area)	2857 sq m
Population before Expansion	1795
Population after Expansion	2823
Domestic Water Requirement before Expansion	226 KLD
Domestic Water Requirement after Expansion	275KLD
Fresh water requirement before expansion	157 KLD
Fresh Water Requirement after Expansion	175 KLD
Waste water generation before expansion	208 KLD
Wastewater Generation	214KLD

Treatment facility if waste water before expansion	STP of 220 KLD
Treatment facility if waste water	STP of 250 KLD
Total Municipal Waste before expansion	858 kg/Day
Total Municipal Waste	1288kg/day
Power Requirement	Maximum power demand for the project during Construction and operation phase is estimated to be 150 KVA and 2600 KVA (Existing= 1000 & Proposed= 600 KVA) respectively. Source of power will be Jharkhand State Electricity board.
DG Sets	DG set of 1500 KVA (2*750 KVA)
RWH Pits	5nos.
Parking Number	1023 Nos. (707 Existing &316 Proposed)
Nearest Road	NH 75 (2.8 km , E)
Nearest Railway Station	Ranchi Junction Railway station (approx6.3 km, E)
Nearest Airport	Birsa Munda Airport (Ranchi), (approx6.7 km, SE)
Nearest Hospitals	• Vivekanand Hospital (4.3 km, NE) • Santevita Hospital (5.3 km, E)
Nearest Water Bodies	• Kanke Dam (4.6 km, NNE) • Dhurwa Dam (7.2 km, SSW)

CO-ORDINATES

1.	**Latitude**	From 23°21'26"N	To 23°21'31"E
2.	**Longitude**	From 85°16'31"N	To 85°16'34"E

LAND DETAILS

Existing Khata no.	**Existing Plot no.**
34, 155, 139 & 230	898, 899, 900, 902, 903, 906 & 908
Expansion Khata no.	**Expansion Plot no.**
155	886, 896, 897, 904 & 905

Statutory Clearances :

1	Land Docs	:	Development agreement : Nisith Keshri Constructions Private Limited.
2	DFO Territorial	:	DFO, Ranchi Forest Division vide letter no. 2022, dated 23.06.2018 and letter no. 2542, dated 27.07.2024 certified that the distance of reserved / protected forest is more than 250 meters from project site.
3	DFO Wildlife	:	DFO, Wildlife Division, Ranchi vide memo no. 273, dated 18.03.2021 and letter no. 704, dated 16.08.2024 certified that proposed project site is out side Eco Sensitive Zone of Palkot Wildlife Sanctuary.
4	CO certificate	:	The CO, Nagri, Ranchi vide letter no. 308, dated 17.02.2022 and letter no. 02, dated 08.04.2025 has mentioned the plot no. of the project is not recorded as "Jungle - Jhari" in R.S. Khatiyan.
5	AAI NOC	:	Airport authority of India issued NOC vide NOC ID no. RANC /EAST /B/ 112317/263416, dated 28.11.2017 valid up to 28.11.2025.
6	Building Plan approval	:	The present expansion proposal is on the basis of submitted conceptual plan for BUA 24114.02 sqm.
7	Fire Department	:	Fire Advisory has been issued by Fire Department, Jharkhand, Ranchi, vide letter no. 128/Tech., dated 06.02.2018.
8	Previous Environmental Clearance (EC)	:	Previous EC granted by SEIAA, Jharkhand vide letter no. EC/SEIAA/2022-23/2497/2022/261, dated 09.09.2022.
9	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-14780595/2023/121, dated 16.02.2023.

AREA STATEMENT

S No.	Description	Area (sq m) as per previous EC (sq m/Nos.)	Area (Sq m) as per expansion (Sq m/Nos.)	Total (Sq m/Nos.)
A.	**Total Plot area**	12994.90	6052.17	19046.93
B.	Proposed Ground Coverage (@29.70 % of plot area)	3411.04	2211.87	5622.91

C.	Proposed FAR	38827.97	18300	57127.97
D.	Non FAR	13658.01	5814.02	19472.03
E.	Built-Up area	52485.98	24114.02	76600
F.	Commercial area	172.35	1972.75	2145.1
G.	Green Area (15 % of the plot area)	1313.24	1543.76	2857
H.	No of Dwelling units	321	127	448
I.	Height	54.30 m		

BUILT UP AREA DETAILS

Building	Existing Built-up area	Proposed Built-up area	Total Built-up area
A (Bungalow)	2266.16	--	2266.16
A (Block A)/Basement	18585.98	5995.63	24581.61
A (Block B)	13414.03	762.12	14176.15
A (Block C)	18219.81	--	18219.81
A (Block D)	--	15383.52	15383.52
A (Commercial)	--	1972.75	1972.75
	52485.98	**24114.02**	**76600**

Water Requirement Details

Category	Population/Area (sqm)/Capacity	Standard(LPCD)	Water Requirement-KLD	Fresh WaterRequirement-KLD	RecycledWater requirement-KLD
Domestic					
Residents	2366	100	237	166	71
Staff/Student	158	45	7	5	2
Visitors	299	15	5	4	1
TotalDomesticWaterDemand			**249**	**175**	**74**
Landscape	2316 sqm	6l/day	14	0	14
DG Cooling	1500 KVA	0.91/KVA/	11	--	11

		hr			
Fire Fighting	--	--	1	--	1
Total			**275**	**175**	**100**

(D.G. sets operation period is 8 hrs.)

Wastewater Calculations

Category	**TotalQuantity (KLD)**
Freshwater Req.	175
FlushingwaterReq.	74
Sewagegeneration(@80%ofthefresh waterconsumption + 100%flushingwater)	214
Capacityof STP	250
RecoveredwaterfromSTP(80%ofWastewater)	171
1. Flushing	74
2. Landscaping	14
3. DG Cooling	11
4. Fire Fighting	1
5. Road Washing/ Car washing/ Discharge to Sewer	71

Solid Waste Requirement

S. No	**Description**	**Occupancy/ Area**	**kg/capita/day**	**Total Solid Waste Generation (kg/day)**	**Recyclable (kg/day)**	**Non-Recyclable (kg/day)**
1.	Residents	2366	0.5	1183	828	355
2.	Staff	158	0.25	40	28	12
3.	Visitors	299	0.15	45	32	13
5.	Landscape waste	0.57 acres	0.2	0.11	0	0.11
5.	STP sludge	214 KLD	--	20	20	-
Total Waste Generated				**1288.11 ~1288**	**908**	**380.11~380**

Status of Remediation Plan & Community Resource augmentation Plan

Sl No	**Major Environment**	**Details**	**Cost Rs in Lacs**	**Present Status**
1	**Air Environment**	**Maintenance of Road**	**3**	**It will be completed within 3 month.**
2	**Water**	**Renovation and repair of**	**5.2525**	**It will be completed**

	Environment	Pond in near by area		within 3 month.
3	Soil Environment	To Present Soil erosion due to rain water, it is proposed to do plantation of various types of trees in vicinity with the provision of Rs 3.37250 lac	3.37250	It will be done within 4 month
4	Socio-Economic Environment	Development of Community Centre in Near by area	40	Construction is under Process. A sum Rs. 19 Lakh has been spent till date, Complete construction will be done within 4 months
5	Noise Environment	Distribution of Solar Panel and Led Light in near by area	2.18750	We'll distribute these in 3 months
Total			53.8125	A sum of Rs. 19 Lakh has been spent rest will be spent within 4 months.

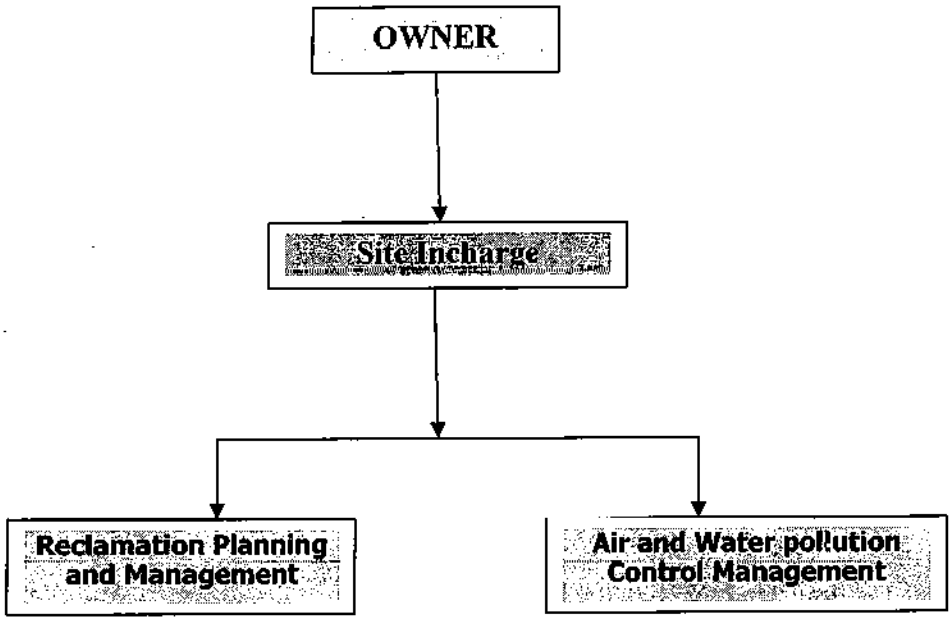
EMP COST

S. No.	Activity	Capacity/ Area/Nos./parameters	Capital Cost (Lacs)	Annual Recurring Cost (Lacs)
1.	STP	250 KLD	25	10
2.	Landscaping & planting trees	2316 sq m	10	5
3.	Solid waste Management	Municipal waste-1288 kg/day	25	6
4.	RWH Pit Installation	5 pits	10	5
5.	Energy Saving	12%	20	5
6.	Environmental Monitoring*	Air, water, soil and noise	-	2
Total			90	33

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Environment Management Cell



ENVIRONMENT MANAGEMENT

Green Belt Development

- Combination of local trees and shrubs are planned within the project site.
- Total green area provided at the site is 2857sq m (15% of the plot area) which will enhance the beauty of the site and help combat air and noise pollution.
- The plant species will be selected on the basis of Guidelines for Developing Green Belts, CPCB March 2000.

Solid Waste Management

During Construction Phase

- Construction yards are proposed for storage of construction material.
- Excavated top soil will be stored in temporary constructed soil bank and will be reused for landscaping of the project.
- Remaining soil will be utilized for refilling/road work/raising of site level at locations.
- There will be "Refuse Containers" at site for the management of domestic waste generated by the construction labourers and these containers will be emptied at least once daily.
- Cement bags, waste paper and packing material (cardboard) will be sold off to recyclers.

During Operation Phase

- The solid waste will be segregated at source & collected.
- Adequate number of colored bins (green, white & Black) separate for bio-degradable, non-biodegradable and Hazardous waste are proposed to be provided at the strategic location within site.
- Bio-degradable (will be composted through organic waste converter).
- Recyclable wastes will be disposed to govt. or SPCB approved third party vendors.
- Dewatered sludge can be buried underground in a sanitary landfill. It also may be spread on agricultural land in order to make use of its value as a soil conditioner and fertilizer.
- The Hazardous waste generated will be managed as per the Hazardous and Other Wastes (Management and Trans boundary Movement) Rules, 2016.
- Horticultural Waste is composted and used for gardening purposes.

Water Quality Management

During Construction Phase

- The site drainage will be planned in such a way that there is no accumulation of water/wastewater within the project premises or in the vicinity of the site.
- Mobile toilets to be provided for construction Laborers.
- Generated waste water will be collected through tankers and dispose to septic tank for treatment.

During Operation Phase

- STP of capacity i.e. 250KLD is proposed for treatment of wastewater.
- Treated waste water would be reused for Flushing, Landscaping, Road Washing &Misc
- Use of water efficient plumbing fixtures to conserve water.
- Approx. 175 KLD of fresh water is required during operational phase of the project.

Air Quality Management

- Warehouse/stock yard will be provided for storage of construction material
- Covering of stored construction materials with tarpaulin covers which will be resold to authorized construction material handling agency for reuse.
- Covering of trucks carrying construction materials.
- Dust suppression by water sprinkling.
- Adequate maintenance of construction equipment & vehicles.
- Wheel wash facility at the entry/exit of the site to prevent dust emissions.
- Periodical Ambient Air Quality Monitoring.
- PUC Certified vehicles.
- Glow signs Speed Limits to 20 kmph to reduce emissions on site will be displayed at the important junctions.

Energy conservation

- Solar panels will be used in street Lights, Common area, Pumping area (solar panels will be used to save around 5% of the total power requirement.

Undertaking

- An affidavit stating that no constructions work.
- An undertaking that 171 KLD recycles waste water generated at Expansion of Residential Project "OAK Elegance" located at Khata No. 34, 155, 139, 230 and Plot/Khesra no. – 886, 896, 897, 898, 899, 900, 902, 903, 904, 905, 906, 908 at Village-Pudang, Thana No. 228, Thana -Argora, Block-Nagadi, District-Ranchi, Jharkhand shall be met from M/s Nisith Keshari Constructions Pvt. Ltd.
- An undertaking that 2600 kVA Power requirement in Expansion of Residential Project "OAK Elegance" located at Khata No. 34, 155, 139, 230 and Plot/Khesra no. – 886, 896, 897, 898, 899, 900, 902, 903, 904, 905, 906, 908 at Village-Pudang, Thana No. 228, Thana -Argora, Block-Nagadi, District-Ranchi, Jharkhand shall be met from M/s Nisith Keshari Constructions Pvt. Ltd.

Based on the presentation made and information provided, the Committee decided that the proposal for Expansion of Residential Project "OAK Elegance" of M/s Nisith Keshari Construction Pvt. Ltd., Village : Pundag, Thana : Argora, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –I alongwith the following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

VI. Developers to offsets energy consumption by solar generation of not less than 02 % of connected load.

VII. Trees should be developed & maintained not less than 15% of project area.

VIII. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.

IX. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

X. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is harvested including usage within the premises only on 100% basis.

XI. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XII. Water runoff originating from open non constructed areas of project premises to be harvested /guided in such a way that it does not create water logging condition outside.

XIII. Sufficient number of EV fast charging stations to be installed.

XIV. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XV. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

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4. **Koreyamohanpal & Subarnarekha Sand Ghat (in the river bed of Subarnarekha) of M/s Jharkhand State Mineral Development Corporation Limited, Village : Koreyamohanpal, Thana : Ghatshila, Distt. : East Singhbhum, Jharkhand (46.30 Ha).**

(Proposal No : SIA/JH/MIN/ 533647/2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 115th meeting held on 23 - 27.07.2024 and SEIAA, Jharkhand has approved the ToRs in 115th meeting held on 06th & 07th August, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3209/2024/188, dated 11.08.2024. The final EIA / EMP submitted by PP to SEAC on 25.04.2025.

EC Application for: Proposed Capacity- 138900 cum per annum or 362529 TPA.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	Koreyamohanpal & Subarnarekha Sand Ghat (In The River Bed of Subarnarekha)	
2	Lessee	:	M/s Jharkhand State Mineral Development Corporation Limited	
3	Lessee Address	:	Khanij Nigam Bhawan, Doranda, Ranchi – 834002, Jharkhand.	
4	Lease Area	:	46.30 ha.	Acres- 114.41 Acres
5	Type of Land	:	Govt. non forest (river) land	
6	Project Cost	:	Rs. 300 Lakhs	
7	EMP Budget	:	Capital: 18.60 lakh	Recurring: 7.00 Lakh
8	New or Expansion	:	New	
9	Mineable Reserves for 1st year & subsequent year 60% of Replenished quantity	:	138900 cum or 362529 tonnes	
10	Mine Life	:	Life of Mine / Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.	
11	Man power	:	49	
12	Water Requirement	:	12.09 ~ 12.10 KLD (Drinking: 0.49 KLD, Dust Suppression: 6.84 KLD, Plantation: 4.76 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	NA	
15	Crusher	:	NA	
16	Nearest Water Body	:	Project lies on Subarnarekha River.	
17	Nearest Habitation	:	Punashya Village Approx 0.62 km towards West direction.	
18	Nearest Rail Station	:	Chakulia Railway Station approx. 21.60 Km in NNE direction.	
19	Nearest Airport	:	Birsa Munda Airport approx. 178.0 km towards NW direction.	
20	Nearest Forest	:	Open mixed Jungle Approx. 6.50 Km in NE direction from mining lease Open sal Jungle Approx. 6.0 Km in SW direction from mining lease. Open jungle mainly sal Approx. 6.20 Km in NW direction from mining lease	
21	Road & Highways	:	NH-18 Approx. 4.80 Km in ENE direction from mining lease.	

CO-ORDINATES

1	Latitude		From 22°17'35.37"N	To 86°39'19.51"E
2	Longitude		From 22°16'58.68"N	To 86°39'22.19"E

LAND DETAILS

Plot no.
27 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Gudabanda vide letter no. 483/An., dated 13.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, East Singhbhum, Jamshedpur vide memo no. 657/Khanan dated 22.07.2024 certified that 01 other balughat (34.07 Ha) exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 117, dated 16.01.2023 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Jamshedpur Forest Division vide letter no. 124, dated 17.01.2023 certified that the distance of forest is 2100 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of East Singhbhum District (Sl. no. 08, Page no. 63).
7	Gram Sabha	:	BDO, Gudabanda vide letter no. 979, dated 20.10.2023 has certified that no population is residing in close proximity of the project.
8	Mine Plan	:	Approved by District Mining Officer, East Singhbhum, Jamshedpur

	Approval		vide Memo No. 537/Khanan, dated 21.06.2024.
9	Baseline Data Period	:	March, 2024 to May, 2024.
10	Public Hearing	:	Public Hearing conducted on 25.02.2025.
11	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast manual Method	
2	Quarry Area	:	46.30 Ha. or 114.41Acres	Life of Mine – Lease Period i.e 15/08/2025 as per provisions of Jharkhand State Sand Mining Policy 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	NA, as it is sand mining project.	
4	Stripping Ratio	:	0:0	
5	Working Days	:	200 Days	
6	Benches: size & No	:	Bench height – 0.5 m & Bench width - 20.0 m.	
7	Elevation of Mine	:	65 mRL to 64 mRL	
8	Ground Level Elevation	:	64 mRL	
9	Ultimate Working Depth	:	0.5 m	
10	Water Table	:	NA	
11	Topography of Mine	:	Area lying in river plain.	
12	Explosive Requirement	:	NA	
13	Diesel/Fuel requirement	:	NA	

Production Details

Year	Thickness (m)	Average Replenishment Rate	Production of sand(Cum)	Production of sand –MT
1st	0.5	60	138900	362529

The Development Plan submitted along with the mine plan relates to mining operation during the first year

Land Use

Type of Land	Area in (ha)
Forest Land	Nil
Govt. waste land (River)	46.30
Residential area	Nil
Company land	Nil
Private Land	Nil
Total	**46.30**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Plantation along both sides of approach road	1140 m	1140
2	No. of Plants distributed with consultation local authorities/ village Panchayat	-	160

Budget for Environmental protection

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 50,000 40,000 20,000 10,000
3	Plantation	11,90,000	1,00,000
4	Construction and maintenance of haul road	5,70,000	1,50,000
	Suggestions As per Public Hearing		
5	Construction of Male & Female toilet at public place in the village.	1,00,000	30,000

6	Distribution of plants to the people of Koriamohanpal and Subarnarekha villages	-	1,00,000
TOTAL		**18,60,000**	**7,00,000**

*Note: *2380 plants * 500 Rs (for each plants including hedges and fences)= 11.90 lakhs*
*Salary of Labor for haul road maintenance 1 labor*300 =300 per day*

*300*300 = 90,000/- or 1,50,000/-(including maintenance)*

** 2.5 lakh per kilometer (5,70,000 * 1.14 km haul road = 5,70,000 /-)*

Environment Monitoring Programme

S. No.	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Details of action plan for the issues raise during the public hearing.

S. No.	Name and Address	Issues raised by Locals/Public	Replied by Project Proponent	Action Plan
1.	Shri Dhirendra Nath Bera, Village-Patharpada	He said that we welcome all the people. We are happy with the upcoming project. He said that sand lifting should be done manually and not by machines. Public welfare work should be done. This is such a big village but there is no toilet facility here. Tractor owners should get work.	The Project Proponent/ management replied that the Sand lifting will be done manually, tree plantation and regular water sprinkling will be done. The management said that they will talk to SDO Sahab for construction of toilet.	A total of Rs. 1.0 lakh will be spent as capital cost and Rs. 0.30 lakh as recurring cost for construction of Male & Female toilet, which is also included in the EMP cost.

2.	Shri Rohit Bera, Village-Swargchhinra	Shri Bera said that the Raiyat land on which the sand transport will take place should be compensated. The villagers graze their animals on the same road. The animals should be protected. How much will the labourers get as wages, under the employment in the mine operation work.	The Project Proponent/ management replied that compensation will be given through mutual agreement and I will try to help in the development of the nearby villages through DMFT Fund, rural roads will not be used for sand transportation.	-
3.	Shri Upendra Nayak, Village-Swargchhinra	He said that there is a habitation lying between the village and the river. The road has not been built till date, either the transportation will be done through the old kutcha road or a new road will be built. If there is a heavy vehicle transportation during the mine operations on the road, there will be dust trouble.	The Project Proponent/ management replied that tree plantation and regular water sprinkling will be done. He also said that another road will be made in place of the previous one.	A total of Rs. 5.70 lakh will be spent as capital cost and Rs. 1.50 lakh as recurring cost for Construction and maintenance of haul road for transportation route, which is also included in the EMP cost.
4.	Shri Manohar Munda, Sarpanch, Village-Swargchhinra	Shri Munda said that heavy vehicles should not go inside the sand ghat. Sand should be brought to the stock by tractor.	The Project Proponent/ management replied that sand would be brought/transported to the stock only by tractors.	--
5.	Shri Manmot Devri, Sarpanch Village-Vanmakri	Shri Devri welcomed everyone, and said that the lease is being approved, this will lead to development of the local villages and the government will also	The Project Proponent/ management replied that sand will not be lifted by heavy vehicles. Sand will be lifted from the river by tractors and brought to the stock	--

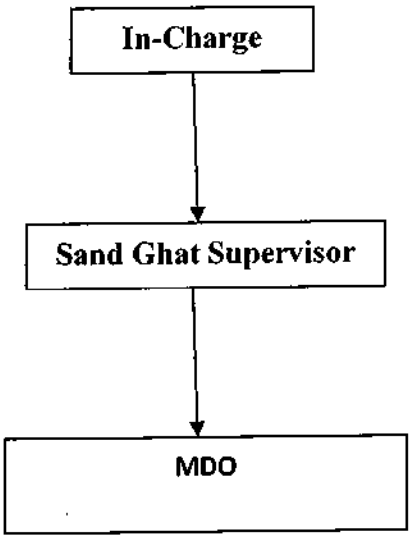
		benefit. Heavy vehicles should not go into the river.	yard.	
6.	Shri Kane Lal Bera, Village-Swargchhinra	Shri Bera said that sand transportation will be done during the day or at night. There is no problem if it is done at night. Big vehicles should not be allowed to ply on the road during the school time.	The management said that the ghat will be operational from 6 am to 6 pm. He said that he will try to open another route instead of the previous one to avoid the problem of school children.	--
7.	Shri Surda Mardi, Village-Punasiya	He asked, how sand will be provided for the construction of houses under PM Awas Yojana. Tractors of nearby Panchayats should be used and saplings should be given to people of nearby villages for the plantation.	The management said that sand mining will be done only up to 0.5 meter depth and the workers will be paid wages as per the government rate.	Rs 1.0 lakh will be spent as recurring cost for distribution of plants to the people of Koriamohanpal and Subarnarekha villages. which is also included in the EMP cost.
	Shri Suman Bera, Village-Swargchhinra	He said that what is the Air Quality Index (AQI) here, if mining work takes place then AQI will increase, sand mining should not be more than 0.5 meter deep. If mining takes place at a greater depth then where should we complain about it	The Project Proponent replied that sand excavation will not be done more than 0.5 meters. Sand excavation will not cause air pollution, but there is a possibility of dust problem during sand transportation, so arrangements for regular sprinkling water will be made.	
8.	Shri Ratan Lal Rout, Vice-Chairman, Village-Patharpada	He said that we have not received information about the public hearing. Sand should be mined by the	The Project Proponent/ management replied that excavation will be done at the sand ghat by the local villagers only, in	--

		villagers only. Sand should be released at a cheaper rate for PM Awas and Abua Awas. Local people should get employment.	which sand lifting is controlled by the Panchayat in category-1. If there is such a ghat, then a proposal should come to the district. In category-2, commercial sand ghats are determined and sand will be sold as per the government rates.	

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

No solid waste is generated during the course of mining.



Organization Structure

Water Quality Management

A. Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.

B. Sewage from rest shelter would be treated in Septic Tank soak pit.

C. There is no other source for generation or discharge of trade effluent.

Air Quality Management

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

I. **Operation of Diesel Equipment's** – They generate Noxious gases. It will be ensured that all transport vehicles would be repaired & maintained regularly.

II. **Loading of Product on tippers** – Water will be sprinkled on blasted Sand mass before they are loaded to trucks for transport.

III. **Movement of tippers on Road** – Movement of tippers on road generate dust. For mitigation of this pollution following measures will be taken

ü Regular water sprinkling on Haul road by using water tankers.

ü Regular repair of Haul road

ü All Trucks carrying Sand outside lease area will have PUC certificate.

ü Transport tippers/traders moving on public road will be covered with tarpaulin.

RISK ASSOCIATED WITH PROJECT ACTIVITIES AND THEIR MITIGATION MEASURES ARE DICUSSED BELOW:

Road accidents

Transportation of sand along the public road may cause accident which may cause injury.

Preventive Measures;

1. Ensure speed limit for the haulage vehicle for 40 KMPH.
2. Regular maintenance of haulage road
3. Appropriate navigational signs informing sensitive area like school and habitation
4. Regular maintenance of the vehicles.

Dust generation

- No drilling involved
- Dust mass would be supplied to workers.
- Regular sprinkling of water on road

Noise Generation

Source of noise pollution in the project would be movement of tippers / tractors transporting sand from mine to stock yard. In general tippers / tractors produce a noise level of 75 – 90 (A) measured at distance of 3m from the source.

Preventive measures

- Transportation activities would be confined during day time only.
- There would be a speed limit of 40 kmph for tippers. Higher is speed higher is noise.
- Regular repair and maintenance of tippers/tractors.
- Plantation on both sides of haulage road.
- Tippers having PUC certified will be allowed to be used for sand transportation.

Health Hazards

During digging and handling of sand i.e. loading, transportation and unloading of sand, workmen would be exposed to inhalation of fine dust particles. This poses a health hazard.

Measures

Following mitigation measures would be taken to minimize this impact on health

- Regular water sprinkling on haulage roads
- Tree plantation on both sides of haulage road
- Tippers / Tractors carrying sand would be covered
- Mask would be provided to workmen employed for digging, loading, transportation and unloading activities

Accident at Site

This is a project with only source of accident at site would be movement of tippers /tractors within mine site for transportation of sand.

Preventive measures

Following mitigation measures would be taken to minimize risk of road accident:

- Separate alignment for movement of loaded vehicles coming out of mine site
- Ensure speed restriction of 10 KMPH within mine site for incoming and outgoing tippers
- Regular maintenance and repair of haulage vehicles employed for sand transportation
- No overtaking of transportation vehicles within mine site
- Proper maintenance of haulage roads

Transportation

The usual method of transporting minerals from the working face is by trucks, tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.

b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
k. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
l. Transportation from the river bed will be done using the existing road.
m. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
n. Wet sand will not be transported.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Koreyamohanpal & Subarnarekha Sand Ghat (in the river bed of Subarnarekha) of M/s Jharkhand State Mineral Development Corporation Limited, Village : Koreyamohanpal, Thana : Ghatshila, Distt. : East Singhbhum, Jharkhand (46.30 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no.F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a

time bound manner.

III. The Environmental Clearance granted for lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.

IV. Replenishment study shall be conducted during pre-monsoon and post monsoon every year and study report have to be submitted to SEIAA / SEAC, Jharkhand. The production shall be restricted to 60% of the replenished quantity or the proposed quantity in the mine plan, which ever is less.

V. Suitable plant species of not less than 2 M height to be planted in area equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone. Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for spraying water on haul road and for irrigating newly planted saplings only. Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre-employment Occupational health checkup for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests. Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted within 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted within 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

XI. Project Authority will ensure that personal protective equipments such as protective clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel's.

XII. River Sand Mining shall not be done in rainy Season (mid June to mid October of each calendar year).

XIII. Dept. of Mines & Geology, Govt. of Jharkhand shall keep a strict vigil in the compliance of relevant provisions of applicable Jharkhand Minerals (Prevention of illegal mining, Transportation and Storage) Rule 2017 and its amendment especially scientific execution of mining plan (as approved by they themselves) and report violations if any is found as well as action taken for the same.

XIV. Project Proponent shall submit (to the SEIAA, Jharkhand, Regional Office of MoEF&CC at Ranchi, Jharkhand State Pollution Control Board) six monthly compliance report with evidence of the conditions within a fortnight after the end of every six month till validity period of Environmental Clearance.

XV. The project proponent before starting any activity / preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing / back bearing shall be written with permanent paint mark as described in the

mining plan. All the pillars should remain intact at same geo-coordinate. Establishment / labeling of Benchmark at each pillars or ground control points.

XVI. Extraction of sand beyond annual production capacity is not permitted.

XVII. The Project Proponent should undertake the sand mining limited to 03 meter (three meter) depth by exclusively manual method.

XVIII. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in any manner.

XIX. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical and archaeological importance.

XX. Project Proponent shall submit the annual replenishment report certified by an authorized agency.

XXI. No labour camp shall be allowed in riverbed.

XXII. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

XXIII. Labour & Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any adverse health impact due to exposure to dust and take corrective measures, if needed.

XXIV. The Project Proponent shall make arrangements for safe drinking water, first aid facility along with anti-venom injection, in case of emergency for the workers.

XXV. Sand and gravel may be extracted across the entire active channel during the dry season.

XXVI. Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.

XXVII. Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

XXVIII. Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

XXIX. Sand and gravel shall not be extracted up to a distance of 1 kilo meter (1 km.) from major bridges and highways on both sides, of five times (5x) of the span (x) of a bridge / public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

XXX. Sand and gravel could be extracted from the downstream of the sand bar at river bends.

XXXI. Mining depth should be restricted to 3 meters and distance from the band should be 1/4th of river width and should not be less than 7.5 meters.

XXXII. A buffer distance / unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed / prescribed by the regulatory authority shall be maintained.

XXXIII. River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet of 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation of relaxation in this regard shall be adequately supported by the scientific report.

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5. Koreyamohanpal Sand Ghat of M/s Jharkhand State Mineral Development Corporation Limited, Village : Koreyamohanpal, Thana : Ghatshila, Distt. : East Singhbhum, Jharkhand (34.70 Ha).

(Proposal No : SIA/JH/MIN/ 533425/2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 115th meeting held on 23 - 27.07.2024 and SEIAA, Jharkhand has approved the ToRs in 115th meeting held on 06th & 07th August, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3208/2024/187, dated 11.08.2024. The final EIA / EMP submitted by PP to SEAC on 25.04.2025.

EC Application for: Proposed Capacity- 208200 cum per annum or 545484 TPA.

Project and Location Details :

Sl	Parameter		Details
1	Project Name	:	Koreyamohanpal Sand Ghat (In The River Bed of Subarnarekha)

2	Lessee	:	M/s Jharkhand State Mineral Development Corporation Limited	
3	Lessee Address	:	Khanij Nigam Bhawan, Doranda, Ranchi – 834002, Jharkhand.	
4	Lease Area	:	34.70 ha.	Acres- 85.744 Acres
5	Type of Land	:	Govt. non forest (river) land	
6	Project Cost	:	Rs. 250 Lakhs	
7	EMP Budget	:	Capital: 9.40 lakh	Recurring: 8.30 Lakh
8	New or Expansion	:	New	
9	Mineable Reserves for 1st year & subsequent year 60% of Replenished quantity	:	208200 cum or 545484 tonnes	
10	Mine Life	:	Life of Mine / Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.	
11	Man power	:	65	
12	Water Requirement	:	5.45 ~ 5.50 KLD (Drinking: 0.65 KLD, Dust Suppression: 2.76 KLD, Plantation: 2.04 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	NA	
15	Crusher	:	NA	
16	Nearest Water Body	:	Project lies on Subarnarekha River.	
17	Nearest Habitation	:	Punashya Village Approx 0.64 km towards West direction.	
18	Nearest Rail Station	:	Chakulia Railway Station approx. 22.50 Km in NNE direction.	
19	Nearest Airport	:	Birsa Munda Airport approx. 178.80 km towards NW direction.	
20	Nearest Forest	:	Open mixed Jungle Approx. 6.80 Km in NE direction from mining lease. Open sal Jungle Approx. 3.80 Km in SE direction from mining lease. Open jungle mainly sal Approx. 6.50 Km in NW direction from mining lease.	
21	Road & Highways	:	NH-18 Approx. 5.30 Km in East direction from mining lease.	

CO-ORDINATES

1	Latitude		From 22° 16' 57.89" N	To 22° 16' 29.89" N
2	Longitude		From 86° 39' 42.00" E	To 86° 39' 47.36" E

LAND DETAILS

Plot no.
27 (P) & 72 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Gudabanda vide letter no. 83, dated 20.02.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, East Singhbhum, Jamshedpur vide memo no. 656/Khanan dated 22.07.2024 certified that 01 other balughat (46.30 Ha) exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 117, dated 16.01.2023 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Jamshedpur Forest Division vide letter no. 124, dated 17.01.2023 certified that the distance of forest is 3800 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of East Singhbhum District (Sl. no. 09, Page no. 63).
7	Gram Sabha	:	BDO, Gudabanda vide letter no. 978, dated 20.10.2023 has certified that no population is residing in close proximity of the project.
8	Mine Plan Approval	:	Approved by District Mining Officer, East Singhbhum, Jamshedpur vide Memo No. 533/Khanan, dated 20.06.2024.
9	Baseline Data period	:	March, 2024 to May, 2024.
10	Public Hearing	:	Public Hearing conducted on 24.02.2025.
11	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the

			mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast manual Method	
2	Quarry Area	:	34.70 Ha. or 85.744 Acres	Life of Mine – Lease Period i.e 15/08/2025 as per provisions of Jharkhand State Sand Mining Policy 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
3	Waste Generation	:	NA, as it is sand mining project.	
4	Stripping Ratio	:	0:0	
5	Working Days	:	200 Days	
6	Benches: size & No	:	Bench height – 2.0 m & Bench width - 20.0 m.	
7	Elevation of Mine	:	65 mRL to 64 mRL (maximum 2.0 m)	
8	Ground Level Elevation	:	64 mRL	
9	Ultimate Working Depth	:	1.0 m	
10	Water Table	:	NA	
11	Topography of Mine	:	Area lying in river plain.	
12	Explosive Requirement	:	NA	
13	Diesel/Fuel requirement	:	NA	

Production Details

Year	Thickness (m)	Average Replenishment Rate	Production of sand(Cum)	Production of sand –MT
1st	1	60	208200	545484

The Development Plan submitted along with the mine plan relates to mining operation during the first year

Land Use

Type of Land	Area in (ha)
Forest Land	Nil

Govt. waste land (River)	34.70
Residential area	Nil
Company land	Nil
Private Land	Nil
Total	**34.70**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Plantation along both sides of approach road	560 m	560
2	No. of Plants distributed with consultation local authorities/ village Panchayat	-	140

Budget for Environmental protection

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 50,000 40,000 20,000 10,000
3	Plantation	5,10,000	1,00,000
4	Construction and maintenance of haul road	2,30,000	1,50,000
	Suggestions As per Public Hearing		
5	Renovation of schools, Distribution of notebooks, stationery kits to school children	-	1,00,000
6	Installation of RO machine and hand pump at public place in the village.	1,00,000	30,000
7	Distribution of medicine and for medical camp (Once in 6 months)	-	1,00,000
8	Construction of Male & Female toilet at public place in the village.	1,00,000	30,000

TOTAL	**9,40,000**	**8,30,000**

*Note: *1020 plants * 500 Rs (for each plants including hedges and fences)= 5.10 lakhs*
*Salary of Labor for haul road maintenance 1 labor*300 =300 per day*

*300*300 = 90,000/- or 1,50,000/-(including maintenance)*

** 5.0 lakh per kilometer (500000 * 0.46 km haul road = 2,30,000/-)*

Environment Monitoring Programme

S. No.	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Details of action plan for the issues raise during the public hearing.

S. No.	Name and Address	Issues raised by Locals/Public	Replied by Project Proponent	Action Plan
1.	Shri Virendra Nath Bera, Village-Uparpatharpada	He said that it is a matter of great fortune that officials have come to our village in the district, this is a mineral rich area, plans are made for public welfare but they are not implemented on the	Sand in-charge Mr. O.P. Singh said that trees will be planted along the road, priority will be given to the villagers in drinking water and employment.	Renovation of school, Distribution of notebooks, stationery kits to school children for which a total of Rs 1.0 lakh will be spent as recurring cost, which is also included in the

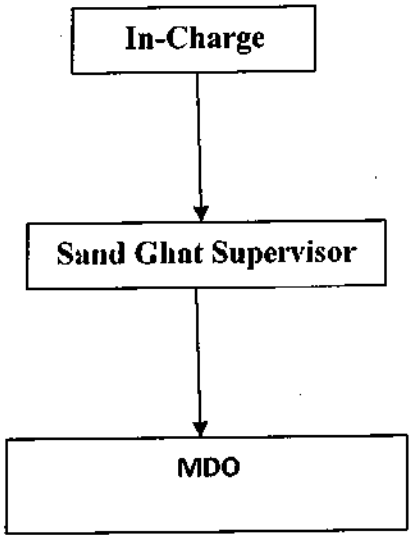
		ground, the people of the nearby villages should be benefited. There should be provision for school, health and clean water. This area should not be ignored after the mining work starts. The village should develop. Most of the houses do not have toilets, toilets should be arranged.		EMP cost. Total Rs. 1.0 lakh will be spent as recurring cost for distribution of medicine and for medical camp (Once in 6 months) which has also been included in EMP cost. A total of Rs. 1.0 lakh will be spent as capital cost and Rs. 0.30 lakh recurring cost for providing RO machine and hand pump at public place in the village. A total of Rs. 1.0 lakh will be spent as capital cost and Rs. 0.30 lakh as recurring cost for construction of Male & Female toilet, which is also included in the EMP cost.
2.	Shri Gorango Ghosh, Village-Pathalpada	He said that whatever village it is, Koreyamohanpal Swargchhinra, the villagers of that villagers should be given employment and the tractors of the local villages should be used in the mining work, then we welcome the project.	The Project Proponent replied that local villagers will be given priority in employment and local village tractors will be used in mining operations.	-
3.	Shri Suman Bera, Village-Swargchhinra	He said that what is the Air Quality Index (AQI) here, if mining work takes place then AQI	The Project Proponent replied that sand excavation will not be done more than 1.0	-

		will increase, sand mining should not be more than 1.0 meter deep. If mining takes place at a greater depth then where should we complain about it	meters. Sand excavation will not cause air pollution, but there is a possibility of dust problem during sand transportation, so arrangements for regular sprinkling water will be made.	
4.	Shri Vinay Kumar Bera, Village-Uparpatharpada	He said that mining will be done by labourers or machines, JCB should not go to the ghat, sand should be transported after covering it.	The Project Proponent replied that mining will be done at a depth of 1.0 meters only. Sand mining will be done manually and covered tractors will be used for sand transportation.	-
5.	Shri Balram Baik, Village-Koima	He said that, we want to know how deep the mining will be done. Is this a government project, Sand will be sold to the local people at the government rate.	The Project Proponent replied that mining will be done at a depth of 1.0 meters. The management said that this is a government mine project, sand will be sold at the government rate.	-
6.	Shri Manmot Devri-Chairman, Nagri Panchayat	He said that many poor people live here. Everyone should be given employment. If everyone gets work then there will be no protest against the mining project.	The Project Proponent replied that local villagers will be given priority in employment.	-
7.	Shri Surda Mardi, Village-Punasiya	He asked, how sand will be provided for the construction of houses under PM Awas Yojana. Tractors of nearby Panchayats should be	The management said that this is a government sand ghat. Sand will be lifted as per applicable government rules.	-

		used and saplings should be given to people of nearby villages for the plantation.		
8.	Shri Manohar Munda, Sarpanch Village-Swargchhinra	He said that, sand should be transported in a proper manner, will only there be fencing where sand is falling/deposited.	The management said that sand will be lifted from the river. After that it will be kept in the stock yard. The stock yard will be fenced.	-

Solid Waste Management

No solid waste is generated during the course of mining.



Organization Structure

Water Quality Management

A. Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.

B. Sewage from rest shelter would be treated in Septic Tank soak pit.

C. There is no other source for generation or discharge of trade effluent.

Air Quality Management

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

I. **Operation of Diesel Equipment's –** They generate Noxious gases. It will be ensured that all transport vehicles would be repaired & maintained regularly.

II. **Loading of Product on tippers –** Water will be sprinkled on blasted Sand mass before they are loaded to trucks for transport.

III. **Movement of tippers on Road** – Movement of tippers on road generate dust. For mitigation of this pollution following measures will be taken

ü Regular water sprinkling on Haul road by using water tankers.

ü Regular repair of Haul road

ü All Trucks carrying Sand outside lease area will have PUC certificate.

ü Transport tippers/traders moving on public road will be covered with tarpaulin.

RISK ASSOCIATED WITH PROJECT ACTIVITIES AND THEIR MITIGATION MEASURES ARE DICUSSED BELOW:

Road accidents

Transportation of sand along the public road may cause accident which may cause injury.

Preventive Measures;

1. Ensure speed limit for the haulage vehicle for 40 KMPH.
2. Regular maintenance of haulage road
3. Appropriate navigational signs informing sensitive area like school and habitation
4. Regular maintenance of the vehicles.

Dust generation

- No drilling involved
- Dust mass would be supplied to workers.
- Regular sprinkling of water on road

Noise Generation

Source of noise pollution in the project would be movement of tippers / tractors transporting sand from mine to stock yard. In general tippers / tractors produce a noise level of 75 – 90 (A) measured at distance of 3m from the source.

Preventive measures

- Transportation activities would be confined during day time only.
- There would be a speed limit of 40 kmph for tippers. Higher is speed higher is noise.
- Regular repair and maintenance of tippers/tractors.
- Plantation on both sides of haulage road.
- Tippers having PUC certified will be allowed to be used for sand transportation.

Health Hazards

During digging and handling of sand i.e. loading, transportation and unloading of sand, workmen would be exposed to inhalation of fine dust particles. This poses a health hazard.

Measures

Following mitigation measures would be taken to minimize this impact on health

- Regular water sprinkling on haulage roads
- Tree plantation on both sides of haulage road
- Tippers / Tractors carrying sand would be covered
- Mask would be provided to workmen employed for digging, loading, transportation and unloading activities

Accident at Site

This is a project with only source of accident at site would be movement of tippers /tractors within mine site for transportation of sand.

Preventive measures

Following mitigation measures would be taken to minimize risk of road accident:

- Separate alignment for movement of loaded vehicles coming out of mine site
- Ensure speed restriction of 10 KMPH within mine site for incoming and outgoing tippers
- Regular maintenance and repair of haulage vehicles employed for sand transportation
- No overtaking of transportation vehicles within mine site
- Proper maintenance of haulage roads

Transportation

The usual method of transporting minerals from the working face is by trucks, tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
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- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
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h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
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k. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
l. Transportation from the river bed will be done using the existing road.
m. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
n. Wet sand will not be transported.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Koreyamohanpal & Subarnarekha Sand Ghat (in the river bed of Subarnarekha) of M/s Jharkhand State Mineral Development Corporation Limited, Village : Koreyamohanpal, Thana : Ghatshila, Distt. : East Singhbhum, Jharkhand (46.30 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no.F.No. IA3-22/3/2024-IA.III (F-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. The Environmental Clearance granted for lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
IV. Replenishment study shall be conducted during pre-monsoon and post monsoon every year and study report have to be submitted to SEIAA / SEAC, Jharkhand. The production shall be restricted to 60% of the replenished quantity or the proposed quantity in the mine plan, which ever is less.

V. Suitable plant species of not less than 2 M height to be planted in area equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone. Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for spraying water on haul road and for irrigating newly planted saplings only. Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre-employment Occupational health checkup for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests. Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted within 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted within 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

XI. Project Authority will ensure that personal protective equipments such as protective clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel's.

XII. River Sand Mining shall not be done in rainy Season (mid June to mid October of each calendar year).

XIII. Dept. of Mines & Geology, Govt. of Jharkhand shall keep a strict vigil in the compliance of relevant provisions of applicable Jharkhand Minerals (Prevention of illegal mining, Transportation and Storage) Rule 2017 and its amendment especially scientific execution of mining plan (as approved by they themselves) and report violations if any is found as well as action taken for the same.

XIV. Project Proponent shall submit (to the SEIAA, Jharkhand, Regional Office of MoEF&CC at Ranchi, Jharkhand State Pollution Control Board) six monthly compliance report with evidence of the conditions within a fortnight after the end of every six month till validity period of Environmental Clearance.

XV. The project proponent before starting any activity / preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing / back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo-coordinate. Establishment / labeling of Benchmark at each pillars or ground control points.

XVI. Extraction of sand beyond annual production capacity is not permitted.

XVII. The Project Proponent should undertake the sand mining limited to 03 meter (three meter) depth by exclusively manual method.

XVIII. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be

confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in any manner.

XIX. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical and archaeological importance.

XX. Project Proponent shall submit the annual replenishment report certified by an authorized agency.

XXI. No labour camp shall be allowed in riverbed.

XXII. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

XXIII. Labour & Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any adverse health impact due to exposure to dust and take corrective measures, if needed.

XXIV. The Project Proponent shall make arrangements for safe drinking water, first aid facility along with anti-venom injection, in case of emergency for the workers.

XXV. Sand and gravel may be extracted across the entire active channel during the dry season.

XXVI. Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.

XXVII. Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

XXVIII. Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

XXIX. Sand and gravel shall not be extracted up to a distance of 1 kilo meter (1 km.) from major bridges and highways on both sides, of five times (5x) of the span (x) of a bridge / public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

XXX. Sand and gravel could be extracted from the downstream of the sand bar at river bends.

XXXI. Mining depth should be restricted to 3 meters and distance from the band should be $1/4^{th}$ of river width and should not be less than 7.5 meters.

XXXII. A buffer distance / unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed / prescribed by the regulatory authority shall be maintained.

XXXIII. River bed sand mining shall be restricted within the central $3/4^{th}$ width of the river/rivulet of 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and

consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation of relaxation in this regard shall be adequately supported by the scientific report.

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6. **Kolsimri & Doba Sand Deposit in the River Bed of Koel of M/s Jharkhand State Mineral Development Corporation Limited, Village : Koksimri & Doba, Block : Kuru, Distt. : Lohardaga, Jharkhand (4.65 Ha).**

(Proposal No : SIA/JH/MIN/ 535772/2025) (New EC)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 69,750 Cum or 118575 Tonnes.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Kolsimri - Doba Sand Deposit (in the River Bed of Koel) of area 4.65 Ha.	
2	Lessee:	:	M/s Jharkhand State Mineral Development Corporation Limited	
3	Lessee Address	:	Khanij Nigam Bhawan, Doranda, Ranchi – 834002, Jharkhand.	
4	Lease Area	:	4.65 ha.	11.49 Acres
5	Type of Land	:	Govt. non forest (river) land	
6	Project Cost	:	Rs. 90 Lakhs	
7	EMP Budget	:	Capital: 5.23 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves for 1st year & subsequent year 60% of Replenished	:	69,750 Cum or 118575 Tonnes	

	quantity		
10	Mine Life	:	Life of Mine / Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
11	Man power	:	18
12	Water Requirement	:	5.21~6.00 KLD (Drinking: 0.18 KLD, Dust Suppression: 1.8 KLD, Plantation: 3.23 KLD)
13	Water Source	:	From Nearby villages by tankers
14	DG Set / power	:	NA
15	Crusher	:	NA
16	Nearest Water Body	:	Project lies on Koel River.
17	Nearest Habitation	:	Sinjo village, Approx. 1.0 km towards east direction.
18	Nearest Railway Station	:	Irgaon Railway Station, approx. 6.67 Km in SSW direction.
19	Nearest Air Port	:	Birsa Munda Airport approx. 56.86 km towards ESE direction.
20	Nearest Forest	:	Protected Forest, Approx 3.77Km, in SE direction from mining lease. Protected Forest, Approx 2.05 km, in ESE direction from mining lease. Protected Forest, Approx 3.5km, in ESE direction from mining lease. Protected Forest, Approx 2.00km, in NE direction from mining lease
21	Road & Highways	:	NH-143 A, Approx. 5.50 Km in North direction from mining lease.

CO-ORDINATES

1	Latitude		From 23° 28'47.31"N	To 23° 29' 4.49" N
2	Longitude		From 84° 47'48.11" E	To 84° 48' 2.65"E

LAND DETAILS

Village	Plot no.
Kolsimri	2442 (P)
Doba	387 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDC Ltd. has been nominated as nodal agency

			for operating sand mines in category II.
2	CO	:	The CO, Kuru vide letter no. 1158, dated 30.12.2022 & letter no. 249, dated 19.04.2025 have mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Lohardaga vide memo no. 364/M dated 29.04.2025 certified that no other balughat exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 175, dated 19.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Lohardaga Forest Division vide letter no. 04, dated 02.01.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Lohardaga District (Sl. no. LK03, Page no. 73).
7	Gram Sabha	:	BDO, Kuru (Lohardaga) vide letter no. 173/Sa., dated 01.03.2025 informed that Gram Sabha conducted on 24.02.2025 and 08.04.2025 respectively.
8	Mine Plan Approval	:	Approved by District Mining Officer, Lohardaga vide Memo No. 354/M, dated 25.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Method	
2	Quarry Area	:	4.65 ha. or 11.49 Acres	Life of Mine – Upto15/08/2025 as per provisions of Jharkhand State Sand Mining Policy 2017 & its amendment.
3	Waste Generation	:	NA, as it is sand mining project.	
4	Stripping Ratio	:	1:00	
5	Working Days	:	200 Days	
6	Benches: size & No	:	Bench height – 2.5 m & Bench width - 20.0 m.	
7	Elevation of Mine	:	640 AMSL to 637AMSL	
8	Ground Level Elevation	:	637 AMSL	
9	Ultimate Working	:	634.5 AMSL	

	Depth		
10	Water Table	:	NA
11	Topography of Mine	:	Area lying in river plain.
12	Explosive Requirement	:	NA
13	Diesel/Fuel requirement	:	NA

Production Details

Year	Thickness (m)	Average Replenishment Rate	Production Of sand (Cum)	Production of sand –MT
1st	2.5	60%	69750	118575

The Development Plan submitted along with the mine plan relates to mining operation during the first year.

Land Use

Type of Land	Area in (ha)
Forest Land	Nil
G.M land (River)	4.65
Residential area	Nil
Company land	Nil
Private Land	Nil
Total	**4.65**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Plantation along both sides of approach road		300 m	600
2	No. of Plants distributed with consultation local authorities/ village Panchayat		--	46

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable

species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Plan

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	3,23,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
Total		**5,23,000**	**4,87,000**

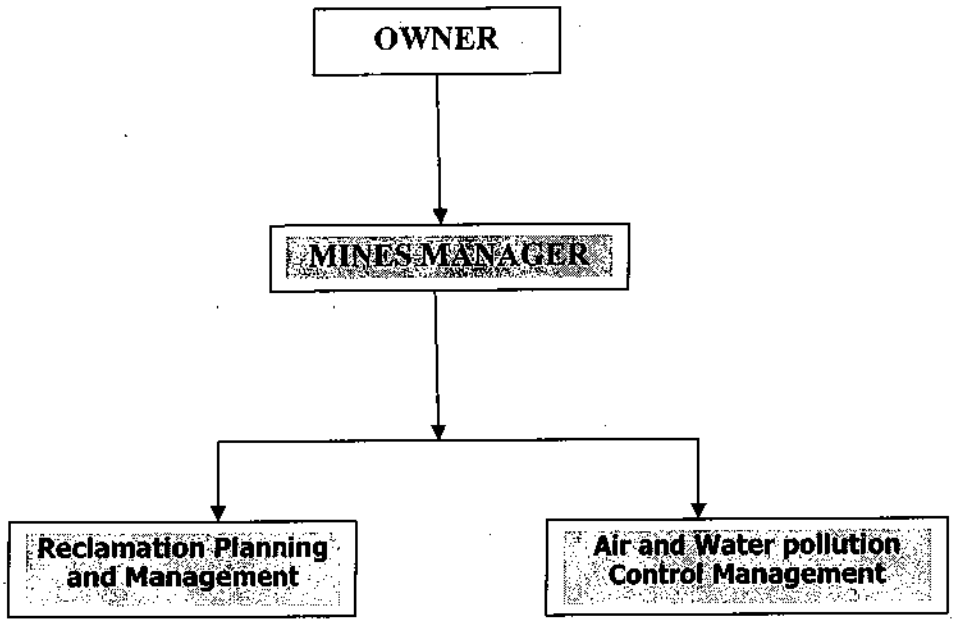
Note: *646 plants *500 Rs (for each plants including hedges and fences) = Rs. 3,23,000/-
Salary of Labor for haul road maintenance 1 labor*300 = 300 per day
300* 200 = 60,000/-~ 1,50,000/- (including Maintenance)
* 5 lakh per kilometer (500000 * 0.30 km haul road = 1, 50,000 ~ 2, 00,000/-)

Environment Monitoring Programme

S. No.	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

•No solid waste is generated during the course of mining.



Organization Structure

Solid Waste Management

No solid waste is generated during the course of mining.

Water Quality Management

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VII. Pre-employment Occupational health checkup for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests. Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted within 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted within 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

XI. Project Authority will ensure that personal protective equipments such as protective clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel's.

XII. River Sand Mining shall not be done in rainy Season (mid June to mid October of each calendar year).

XIII. Dept. of Mines & Geology, Govt. of Jharkhand shall keep a strict vigil in the compliance of relevant provisions of applicable Jharkhand Minerals (Prevention of illegal mining, Transportation and Storage) Rule 2017 and its amendment especially scientific execution of mining plan (as approved by they themselves) and report violations if any is found as well as action taken for the same.

XIV. Project Proponent shall submit (to the SEIAA, Jharkhand, Regional Office of MoEF&CC at Ranchi, Jharkhand State Pollution Control Board) six monthly compliance report with evidence of the conditions within a fortnight after the end of every six month till validity period of Environmental Clearance.

XV. The project proponent before starting any activity / preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing / back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo-coordinate. Establishment / labeling of Benchmark at each pillars or ground control points.

XVI. Extraction of sand beyond annual production capacity is not permitted.

XVII. The Project Proponent should undertake the sand mining limited to 03 meter (three meter) depth by exclusively manual method.

XVIII. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in any manner.

XIX. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical and archaeological importance.

XX. Project Proponent shall submit the annual replenishment report certified by an authorized agency.

XXI. No labour camp shall be allowed in riverbed.

XXII. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

XXIII. Labour & Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any adverse health impact due to exposure to dust and take corrective measures, if needed.

XXIV. The Project Proponent shall make arrangements for safe drinking water, first aid facility along with anti-venom injection, in case of emergency for the workers.

XXV. Sand and gravel may be extracted across the entire active channel during the dry season.

XXVI. Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.

XXVII. Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

XXVIII. Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

XXIX. Sand and gravel shall not be extracted up to a distance of 1 kilo meter (1 km.) from major bridges and highways on both sides, of five times (5x) of the span (x) of a bridge / public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

XXX. Sand and gravel could be extracted from the downstream of the sand bar at river bends.

XXXI. Mining depth should be restricted to 3 meters and distance from the band should be $1/4^{th}$ of river width and should not be less than 7.5 meters.

XXXII. A buffer distance / unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed / prescribed by the regulatory authority shall be maintained.

XXXIII. River bed sand mining shall be restricted within the central $3/4^{th}$ width of the river/rivulet of 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation of relaxation in this regard shall be adequately supported by the scientific report.

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7. **Tokisud - I Sand Deposit in the River Bed of Damodar of M/s Jharkhand State Mineral Development Corporation Limited, Village : Tokisud, Distt. : Ramgarh, Jharkhand (0.93 Ha).**

(Proposal No : SIA/JH/MIN/ 535985/2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).
EC Application for: Proposed Capacity- 8250 cum per annum or 12705 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Tokisud- I Sand Deposit (River Bed of Damodar) of area 0.93 Ha.	
2	Lessee:	:	M/s Jharkhand State MineralDevelopment Corporation Limited	
3	Lessee Address	:	Khanij Nigam Bhawan, Doranda, Ranchi – 834002, Jharkhand.	
4	Lease Area	:	0.93 ha.	
5	Type of Land	:	Govt. non forest (river) land	
6	Project Cost	:	Rs. 50 lakh	
7	EMP Budget	:	Capital: 7.70 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	8250 cum or 12705 tons	
10	Mine Life	:	Upto15/08/2025 as per provisions of Jharkhand State Sand Mining Policy 2017 & its amendment.	
11	Man power	:	25	
12	Water Requirement	:	5.37~5.50KLD (Drinking: 0.25 KLD, Dust Suppression: 3.06 KLD, Plantation: 2.06 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	NA	
15	Crusher	:	NA	
16	Nearest Water Body	:	Project lies on Damodar River.	
17	Nearest Habitation	:	Tokisud Approx, 0.61 km in ESE direction.	
18	Nearest Railway Station	:	Tokisud Railway Station Approx 2.96 Km in SSW direction.	
19	Nearest Air Port	:	Birsa Munda Ranchi Airport approx.43.81 km towards South direction.	
20	Nearest Forest	:	Fairly Dense Jungle, approx. 0.93 Km in NNW direction from mining lease.	
21	Road & Highways	:	SH-2, Approx. 10.85 Km in ESE direction from mining lease.	

CO-ORDINATES

1	Latitude		From 23°42' 17.3628" N	To 23°42' 27.3600" N
2	Longitude		From 85°14' 27.2728" E	To 85°14' 27.9206" E

LAND DETAILS

Khata no.	Plot no.
64	160

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Patratu (Ramgarh) vide letter no. 269, dated 07.03.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Ramgarh vide memo no. 499/Khanan dated 12.04.2025 certified that 01 other balughat (2.28 Ha) exists within 500 m radius from proposed project site and total area is 3.21 Ha.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 949, dated 24.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Hazaribag Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Ramgarh Forest Division vide letter no. 355, dated 25.02.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Ramgarh District (Page no. 64).
7	Gram Sabha	:	Gram Sabha conducted on 22.05.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Ramgarh vide Letter No. 540/Mining, dated 28.04.2025.

9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Manual Method	
2	Quarry Area	:	0.93ha.	Life of Mine – Upto15/08/2025 as per provisions of Jharkhand State Sand Mining Policy 2017 & its amendment.
3	Waste Generation	:	NA, as it is sand mining project.	
4	Stripping Ratio	:	1:00	
5	Working Days	:	200 Days	
6	Benches: size & No	:	Bench height – 1.5m & Bench width - 20.0 m.	
7	Elevation of Mine	:	370 AMSL to 367 AMSL	
8	Ground Level Elevation	:	367 AMSL	
9	Ultimate Working Depth	:	365.5 AMSL	
10	Water Table	:	NA	
11	Topography of Mine	:	Area lying in river plain.	
12	Explosive Requirement	:	NA	
13	Diesel/Fuel requirement	:	NA	

Production Details

Year	Thickness (m)	Average Replenishment Rate	Production Ofsand (Cum)	Production of sand –MT
1st	1.5	60%	8250	12705

The Development Plan submitted along with the mine plan relates to mining operation during the first year.

Land Use

Type of Land	Area in (ha)
Forest Land	Nil
G.M land (River)	0.93

Residential area	Nil
Company land	Nil
Private Land	Nil
Total	**0.93**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Plantation along both sides of approach road		510 m	1020
2	No. of Plants distributed with consultation local authorities/ village Panchayat		--	10

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Plan

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	5,15,000	1,00,000
4	Construction and maintenance of haul road	2,55,000	1,50,000
Total		**7,70,000**	**4,87,000**

Note: *1030 plants *500 Rs (for each plants including hedges and fences) = Rs. 5,15,000/-

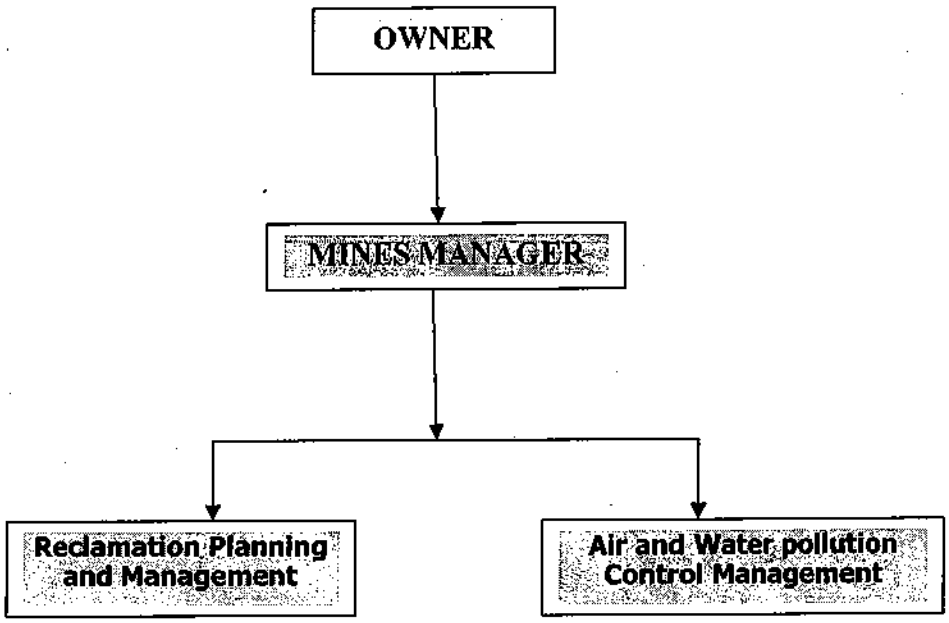
Salary of Labor for haul road maintenance 1 labor*300 = 300 per day

300 200 = 60,000/- ~ 1,50,000/- (including Maintenance)*

** 5 lakh per kilometer (500000 * 0.51 km haul road = 2,55,000/-)*

Environment Monitoring Programme

S. No.	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly



Organization Structure

Solid Waste Management

No solid waste is generated during the course of mining.

Water Quality Management

A. Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.

B. Sewage from rest shelter would be treated in Septic Tank soak pit.

C. There is no other source for generation or discharge of trade effluent.

Air Quality Management

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

I. **Operation of Diesel Equipment's** – They generate Noxious gases. It will be ensured that all transport vehicles would be repaired & maintained regularly.

II. **Loading of Product on tippers** – Water will be sprinkled on blasted Sand mass before they are loaded to trucks for transport.

III. **Movement of tippers on Road –** Movement of tippers on road generate dust. For mitigationof this pollution following measures will be taken

- Regular water sprinkling on Haul road by using water tankers.
- Regular repair of Haul road
- All Trucks carrying Sand outside lease area will have PUC certificate.
- Transport tippers/traders moving on public road will be covered with tarpaulin.

RISK ASSOCIATED WITH PROJECT ACTIVITIES AND THEIR MITIGATION MEASURES ARE DICUSSED BELOW:

Road accidents

Transportation of sand along the public road may cause accident which may cause injury.

Preventive Measures;

1. Ensure speed limit for the haulage vehicle for 40 KMPH.
2. Regular maintenance of haulage road
3. Appropriate navigational signs informing sensitive area like school and habitation
4. Regular maintenance of the vehicles.

Dust generation

- No drilling involved
- Dust mass would be supplied to workers.
- Regular sprinkling of water on road

Noise Generation

Source of noise pollution in the project would be movement of tippers / tractors transporting sand from mine to stock yard. In general tippers / tractors produce a noise level of 75 – 90 (A) measured at distance of 3m from the source.

Preventive measures

- Transportation activities would be confined during day time only.
- There would be a speed limit of 40 kmph for tippers. Higher is speed higher is noise.
- Regular repair and maintenance of tippers/tractors.
- Plantation on both sides of haulage road.
- Tippers having PUC certified will be allowed to be used for sand transportation.

Health Hazards

During digging and handling of sand i.e. loading, transportation and unloading of sand, workmen would be exposed to inhalation of fine dust particles. This poses a health hazard.

Measures

Following mitigation measures would be taken to minimize this impact on health

- Regular water sprinkling on haulage roads
- Tree plantation on both sides of haulage road
- Tippers / Tractors carrying sand would be covered
- Mask would be provided to workmen employed for digging, loading, transportation and unloading activities

Accident at Site

This is a project with only source of accident at site would be movement of tippers /tractors within mine site for transportation of sand.

Preventive measures

Following mitigation measures would be taken to minimize risk of road accident:

- Separate alignment for movement of loaded vehicles coming out of mine site
- Ensure speed restriction of 10 KMPH within mine site for incoming and outgoing tippers
- Regular maintenance and repair of haulage vehicles employed for sand transportation
- No overtaking of transportation vehicles within mine site
- Proper maintenance of haulage roads

Transportation

The usual method of transporting minerals from the working face is by tractor. Large earth moving equipment's are not used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road/approach road shall be made smooth regularly with a road roller.
- Mine road/approach road will be cleaned daily for smooth transportation.
- Mine road/approach road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.

e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
k. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
l. Transportation from the river bed will be done using the existing road.
m. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
n. Wet sand will not be transported.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Tokisud - I Sand Deposit in the River Bed of Damodar of M/s Jharkhand State Mineral Development Corporation Limited, Village : Tokisud, Distt. : Ramgarh, Jharkhand (0.93 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no.F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. The Environmental Clearance granted for lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.
IV. Replenishment study shall be conducted during pre-monsoon and post monsoon every year and study report have to be submitted to SEIAA / SEAC, Jharkhand. The

production shall be restricted to 60% of the replenished quantity or the proposed quantity in the mine plan, which ever is less.

V. Suitable plant species of not less than 2 M height to be planted in area equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone. Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

VI. Dedicated water tanker to be provided for spraying water on haul road and for irrigating newly planted saplings only. Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VII. Pre-employment Occupational health checkup for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests. Summary findings of same to submitted along with 6 monthly compliance.

VIII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted within 6 monthly compliance report with Geo-Tagged photographs.

IX. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted within 6 monthly compliance report.

X. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

XI. Project Authority will ensure that personal protective equipments such as protective clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel's.

XII. River Sand Mining shall not be done in rainy Season (mid June to mid October of each calendar year).

XIII. Dept. of Mines & Geology, Govt. of Jharkhand shall keep a strict vigil in the compliance of relevant provisions of applicable Jharkhand Minerals (Prevention of illegal mining, Transportation and Storage) Rule 2017 and its amendment especially scientific execution of mining plan (as approved by they themselves) and report violations if any is found as well as action taken for the same.

XIV. Project Proponent shall submit (to the SEIAA, Jharkhand, Regional Office of MoEF&CC at Ranchi, Jharkhand State Pollution Control Board) six monthly compliance report with evidence of the conditions within a fortnight after the end of every six month till validity period of Environmental Clearance.

XV. The project proponent before starting any activity / preparation of ground, on the leased area shall demarcate his lease hold by RCC pillars erected at the cost of lease holder after certification of the mining officer. On each pillar Geo-Coordinate and fore bearing / back bearing shall be written with permanent paint mark as described in the mining plan. All the pillars should remain intact at same geo-coordinate. Establishment / labeling of Benchmark at each pillars or ground control points.

XVI. Extraction of sand beyond annual production capacity is not permitted.

XVII. The Project Proponent should undertake the sand mining limited to 03 meter (three meter) depth by exclusively manual method.

XVIII. The stacking area of mined-out sand which shall be situated near the mining site within a fenced area from all sides to avoid being spread in the nearby areas by high winds and the height of stacking should not exceed 2 meter. Transportation shall be confined to day time only that is from sunrise to sunset, to avoid inconvenience to local population in any manner.

XIX. Mining activity shall not be done for mine lease where mining can cause danger to site of flood protection works, places of cultural, religious, historical and archaeological importance.

XX. Project Proponent shall submit the annual replenishment report certified by an authorized agency.

XXI. No labour camp shall be allowed in riverbed.

XXII. Provision shall be made for housing labour with all necessary infrastructure and facilities (outside mining Block and river-bed) such as fuel for cooking, toilets / mobile toilets, safe drinking water, First-Aid facilities, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

XXIII. Labour & Personnel working in dusty areas shall wear protective respiratory devices and they shall also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers shall be undertaken periodically to observe any adverse health impact due to exposure to dust and take corrective measures, if needed.

XXIV. The Project Proponent shall make arrangements for safe drinking water, first aid facility along with anti-venom injection, in case of emergency for the workers.

XXV. Sand and gravel may be extracted across the entire active channel during the dry season.

XXVI. Abandoned stream channels on the terrace and inactive floodplains be preferred rather than active channels and their deltas and flood plains. The stream should not be diverted to form the inactive channel.

XXVII. Layers of sand and gravel which could be removed from the river bed shall depend on the width of the river and replenishment rate of the river.

XXVIII. Sand and gravel shall not be allowed to be extracted where erosion may occur, such as at the concave bank.

XXIX. Sand and gravel shall not be extracted up to a distance of 1 kilo meter (1 km.) from major bridges and highways on both sides, of five times (5x) of the span (x) of a bridge / public civil structure (including water intake points) on up-stream side and ten times (10x) the span of such bridge on down-stream side, subjected to a minimum of 250 meters on the upstream side and 500 meters on the downstream side.

XXX. Sand and gravel could be extracted from the downstream of the sand bar at river bends.

XXXI. Mining depth should be restricted to 3 meters and distance from the band should be $1/4^{th}$ of river width and should not be less than 7.5 meters.

XXXII. A buffer distance / unmined block of 50 meters after every block of 1000 meters over which mining is undertaken or at such distance as may be the directed / prescribed by the regulatory authority shall be maintained.

XXXIII. River bed sand mining shall be restricted within the central 3/4th width of the river/rivulet of 7.5 meters (inward) from river banks but up to 10% of the width of the river, as the case may be. Regulating authority while regulating the zone of river bed mining shall ensure that the objective to minimize the effects of riverbank erosion and consequential channel migration are achieved to the extent possible. In general, the area for removal of minerals shall not exceed 60% of the mine lease area, and any deviation of relaxation in this regard shall be adequately supported by the scientific report.

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8. Senha & Medho Sand Deposit in the River Bed of Koel of M/s Jharkhand State Mineral Development Corporation Limited, Village : Senha & Medho, Distt. : Lohardaga, Jharkhand (7.09 Ha).

(Proposal No : SIA/JH/MIN/ 535074/2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

TOR Application for: Proposed Capacity- 106250 cum per annum or 181688 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Senha & Medho Sand Deposit (In The River Bed of Koel River)	
2	Lessee	:	M/s Jharkhand State Mineral Development Corporation Limited	
3	Lessee Address	:	Khanij Nigam Bhawan, Doranda, Ranchi – 834002, Jharkhand.	
4	Lease Area	:	7.09 ha.	Acres- 17.51 Acres
5	Type of Land	:	Govt. non forest (river) land	
6	Project Cost	:	Rs. 140Lakhs	
7	EMP Budget	:	Capital: 8.605 Lakh	Recurring: 5.70 Lakh
8	New or Expansion	:	New	
9	Mineable Reserves for 1st year & subsequent year	:	Cum : 106250 cum (dry basis)	Tonnes: 181688 tonnes (dry basis)

	60% of Replenished quantity			
10	Mine Life	:	Life of Mine / Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.	
11	Man power	:	45	
12	Water Requirement	:	9.605~ 10.00 KLD(Drinking: 0.45 KLD, Dust Suppression: 3.30 KLD, Plantation :5.855KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	NA	
15	Crusher	:	NA	
16	Nearest Water Body	:	Project lies on Koel River.	
17	Nearest Habitation	:	Approx 0.74 km towards SWdirection.	
18	Nearest Rail Station	:	Lohardaga Railway Station approx. 9.10 Km in NNE direction.	
19	Nearest Air Port	:	Birsa Munda Airport approx. 68 km towards ESE direction.	
20	Nearest Forest	:	Protected Forest, Approx. 3.20 Km in North direction from mining lease. Protected Forest, Approx. 3.85 Km in SSE direction from mining lease. Protected Forest, Approx. 4.00 Km in South direction from mining lease.	
21	Road & Highways	:	NH-143A, Approx. 1.55 Km in NW direction from mining lease.	

CO-ORDINATES

1	Latitude		From23° 22'28.2184" N	To 23° 22' 26.7900" N
2	Longitude		From84° 40'03.4100" E	To 84° 40'01.8110" E

LAND DETAILS

Village	Plot no.
Senha	5539 (P)
Medho	01 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-

			117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Senha (Lohardaga) vide letter no. 945, dated 30.12.2022 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Lohardaga vide memo no. 963/M dated 27.11.2024 certified that no other balughat exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 915, dated 12.11.2024 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Lohardaga Forest Division vide letter no. 04, dated 02.01.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Lohardaga District (Sl. no. LK10, Page no. 75).
7	Gram Sabha	:	Gram Sabha conducted on 10.12.2024 and 19.03.2025 respectively.
8	Mine Plan Approval	:	Approved by District Mining Officer, Lohardaga vide Memo No. 957/M, dated 27.11.2024.
9	Baseline Monitoring period	:	March, 2025 to May, 2005.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast manual Method	
2	Quarry Area	:	7.09 ha or 17.51 Acres	Life of Mine –Upto 15/08/2025 as per provisions of Jharkhand State Sand Mining Policy 2017 & its amendment.
3	Waste Generation	:	00 cum, as it is sand mining project.	

4	Stripping Ratio	:	1:00
5	Working Days	:	200 Days
6	Benches: size & No	:	--
7	Elevation of Mine	:	613AMSL to 617AMSL
8	Ground Level Elevation	:	613AMSL
9	Ultimate Working Depth	:	610.5 AMSL
10	Water Table	:	NA
11	Topography of Mine	:	Area lying in river plain.
12	Explosive Requirement	:	NA
13	Diesel/Fuel requirement	:	NA

Production Details

Year	Average Replenishment Rate	Production of sand (Cum)	T. F.	Production of Sand (Tonnes)
1st Year	60%	106250	1.71	181688

The Development Plan submitted along with the mine plan relates to mining operation during the first year

Land Use

Type of Land	Area in (ha)
Forest Land	Nil
Govt. waste land (River)	7.09
Residential area	Nil
Company land	Nil
Private Land	Nil
Total	**7.09**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Plantation along both sides of approach road	550 m	1100

2	No. of Plants distributed with consultation local authorities/ village Panchayat	-	71

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Plan

Sl. No	Description	Capital Cost (lakh)	Recurring Cost (lakh)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	BaselineMonitoring i) Air ii) Water iii) Soil iv) Noise	--	 50,000 40,000 20,000 10,000
3	Plantation	5,85,500	1,00,000
4	Construction and maintenance of haul road	2,75,000	1,50,000
TOTAL		**8,60,500**	**5,70,000**

*Note: *1171 plants *500 Rs (for each plants including hedges and fences) = Rs. 5,85,500/-*

*Salary of Labor for haul road maintenance 1 labor*300 = 300 per day*

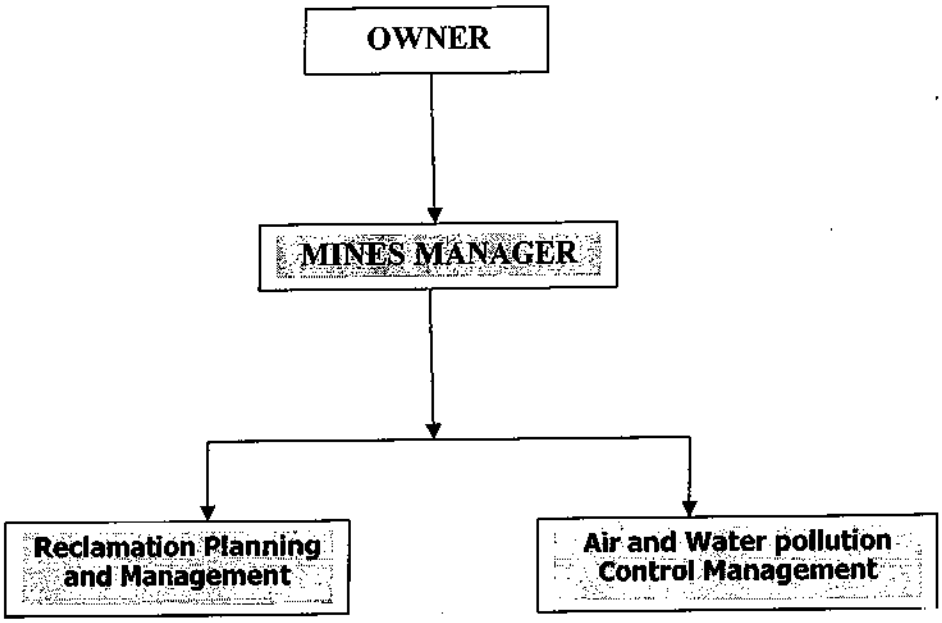
300 200 = 60,000/-~ 1,50,000/- (including Maintenance)*

** 5 lakh per kilometer (500000 * 0.550 km haul road = 2,75,000/-)*

Environment Monitoring Programme

S. No.	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly

5	Noise	4 Stations	6 Monthly



Organization Structure

Solid Waste Management

No solid waste is generated during the course of mining.

Water Quality Management

A. Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.

B. Sewage from rest shelter would be treated in Septic Tank soak pit.

C. There is no other source for generation or discharge of trade effluent.

Air Quality Management

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

I. **Operation of Diesel Equipment's** – They generate Noxious gases. It will be ensured that all transport vehicles would be repaired & maintained regularly.

II. **Loading of Product on tippers** – Water will be sprinkled on blasted Sand mass before they are loaded to trucks for transport.

III. **Movement of tippers on Road** – Movement of tippers on road generate dust. For mitigation of this pollution following measures will be taken

ü Regular water sprinkling on Haul road by using water tankers.

ü Regular repair of Haul road

ü All Trucks carrying Sand outside lease area will have PUC certificate.

ü Transport tippers/traders moving on public road will be covered with tarpaulin.

RISK ASSOCIATED WITH PROJECT ACTIVITIES AND THEIR MITIGATION MEASURES ARE DICUSSED BELOW:

Road accidents

Transportation of sand along the public road may cause accident which may cause injury.

Preventive Measures;

1. Ensure speed limit for the haulage vehicle for 40 KMPH.

2. Regular maintenance of haulage road

3. Appropriate navigational signs informing sensitive area like school and habitation

4. Regular maintenance of the vehicles.

Dust generation

- No drilling involved
- Dust mass would be supplied to workers.
- Regular sprinkling of water on road

Noise Generation

Source of noise pollution in the project would be movement of tippers / tractors transporting sand from mine to stock yard. In general tippers / tractors produce a noise level of 75 – 90 (A) measured at distance of 3m from the source.

Preventive measures

- Transportation activities would be confined during day time only.
- There would be a speed limit of 40 kmph for tippers. Higher is speed higher is noise.
- Regular repair and maintenance of tippers/tractors.
- Plantation on both sides of haulage road.
- Tippers having PUC certified will be allowed to be used for sand transportation.

Health Hazards

During digging and handling of sand i.e. loading, transportation and unloading of sand, workmen would be exposed to inhalation of fine dust particles. This poses a health hazard.

Measures

Following mitigation measures would be taken to minimize this impact on health

- Regular water sprinkling on haulage roads
- Tree plantation on both sides of haulage road
- Tippers / Tractors carrying sand would be covered
- Mask would be provided to workmen employed for digging, loading, transportation and unloading activities

Accident at Site

This is a project with only source of accident at site would be movement of tippers /tractors within mine site for transportation of sand.

Preventive measures

Following mitigation measures would be taken to minimize risk of road accident:

- Separate alignment for movement of loaded vehicles coming out of mine site
- Ensure speed restriction of 10 KMPH within mine site for incoming and outgoing tippers
- Regular maintenance and repair of haulage vehicles employed for sand transportation
- No overtaking of transportation vehicles within mine site
- Proper maintenance of haulage roads

Transportation

The usual method of transporting minerals from the working face is by trucks, tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.

e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
k. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
l. Transportation from the river bed will be done using the existing road.
m. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
n. Wet sand will not be transported.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. Pre-monsoon data of current year is to be included in final EIA report.
III. Satellite imagery with Geo-Cordinates of pre-monsoon (current year) to be included in the final EIA report.

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9. **Gorra Sand Deposit in the River Bed of South Koel of M/s Jharkhand State Mineral Development Corporation Limited, Village : Gorra, Distt. : Simdega, Jharkhand (5.80 Ha).**

(Proposal No : SIA/JH/MIN/ 535929/2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Terms of Reference (ToR) as per EIA Notification, 2006.

TOR Application for: Proposed Capacity- 52200 cum per annum or 136242 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Gorra Sand Deposit (In The River Bed of South Koel River)	
2	Lessee	:	M/s Jharkhand State Mineral Development Corporation Limited	
3	Lessee Address	:	Khanij Nigam Bhawan, Doranda, Ranchi – 834002, Jharkhand.	
4	Lease Area	:	5.80 ha.	Acres- 14.33 Acres
5	Type of Land	:	Govt. non forest (river) land	
6	Project Cost	:	Rs. 150 Lakhs	
7	EMP Budget	:	Capital: 3.90 Lakh	Recurring: 5.70 Lakh
8	New or Expansion	:	New	
9	Mineable Reserves for 1st year & subsequent year 60% of Replenished quantity	:	Cum : 52200 cum (dry basis)	Tonnes: 136242 tonnes (dry basis)
10	Mine Life	:	Life of Mine / Lease period i.e. 15.08.2025 as per provisions of Jharkhand State Sand Mining Policy, 2017 and extendable based on amendments in Jharkhand State Sand Mining Policy.	
11	Man power	:	30	
12	Water Requirement	:	3.16~ 3.20 KLD (Drinking: 0.30 KLD, Dust Suppression: 0.96 KLD, Plantation:1.90 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	NA	
15	Crusher	:	NA	
16	Nearest Water Body	:	Project lies on South Koel River.	
17	Nearest Habitation	:	Approx 0.65 km towards SWdirection.	

18	Nearest Rail Station	:	Mahabuang Railway Station approx. 15.55 Km in NW direction.
19	Nearest Air Port	:	Birsa Munda Airport approx. 82.12 km towards North direction.
20	Nearest Forest	:	Dense Forest Jungle, Approx. 0.84 Km in East direction from mining lease. Dense Forest Jungle, Approx. 5.16 Km in NW direction from mining lease.
21	Road & Highways	:	NH-320G, Approx. 0.20 Km in Westdirection from mining lease.

CO-ORDINATES

1	Latitude		From 22° 36' 48.90"N	To 22° 37' 11.38"N
2	Longitude		From 84° 03' 10.81"E	To 84° 03' 18.00"E

LAND DETAILS

Khata no.	Plot no.
37	851 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Auction letter has been issued by Joint Secretary, Mines & Geology Deptt., Govt. of Jharkhand vide letter no. Kha.ni.-(Vividh)-117/2017-2090/M, dated 30.09.2022. According to provisions in Jharkhand State sand Mining Policy and its amendment. JSMDC Ltd. has been nominated as nodal agency for operating sand mines in category II.
2	CO	:	The CO, Bano vide letter no. 112 (ii)/Ra., dated 31.01.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Simdega vide memo no. 375/M dated 02.05.2025 certified that no other balughat exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 211, dated 05.04.2025 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Simdega Forest Division vide letter no. 449, dated 22.02.2023 certified that the distance of reserved / protected forest is more than 250 meter from proposed project

			site.
6	DSR	:	This project is mentioned in approved DSR of Simdega District (Sl. no. SR16).
7	Gram Sabha	:	Gram Sabha conducted on 27.04.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Simdega vide Letter No. 649/Mining, dated 04.09.2024.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast manual Method	
2	Quarry Area	:	5.80 ha or 14.33 Acres	Life of Mine –Up to 15/08/2025 as per provisions of Jharkhand State Sand Mining Policy 2017 & its amendment.
3	Waste Generation	:	00 cum, as it is sand mining project.	
4	Stripping Ratio	:	1:00	
5	Working Days	:	200 Days	
6	Benches: size & No	:	--	
7	Elevation of Mine	:	274 AMSL to 277 AMSL	
8	Ground Level Elevation	:	274 AMSL	
9	Ultimate Working Depth	:	272.5 AMSL	
10	Water Table	:	NA	
11	Topography of Mine	:	Area lying in river plain.	
12	Explosive Requirement	:	NA	
13	Diesel/Fuel requirement	:	NA	

Production Details

Year	Average Replenishment Rate	Production of sand(Cum)	T. F.	Production of Sand(Tonnes)
1st Year	60%	52200	2.61	136242

The Development Plan submitted along with the mine plan relates to mining operation during the first year

Land Use

Type of Land	Area in (ha)
Forest Land	Nil
Govt. waste land (River)	5.80
Residential area	Nil
Company land	Nil
Private Land	Nil
Total	**5.80**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location	Area/Length	No of Trees
1	Plantation along both sides of approach road	160m	320
2	No. of Plants distributed with consultation local authorities/ village Panchayat	-	60

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Plan

Sl. No	Description	Capital Cost (lakh)	Recurring Cost (lakh)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	BaselineMonitoring i) Air ii) Water iii) Soil iv) Noise	--	 50,000 40,000 20,000 10,000
3	Plantation	1,90,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**3,90,000**	**5,70,000**

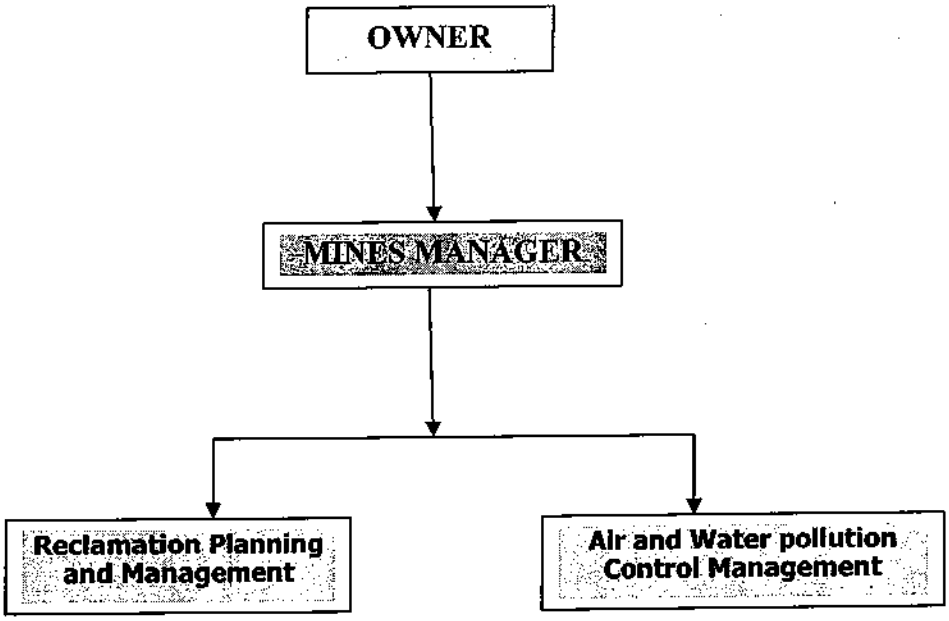
*Note: *380 plants *500 Rs (for each plants including hedges and fences) = Rs. 3,90,000/-*

*Salary of Labor for haul road maintenance 1 labor*300 = 300 per day*

*300*200 = 60,000/-~ 1,50,000/- (including Maintenance)*

Environment Monitoring Programme

S. No.	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly



Organization Structure

Solid Waste Management

No solid waste is generated during the course of mining.

Water Quality Management

A. Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.

B. Sewage from rest shelter would be treated in Septic Tank soak pit.

C. There is no other source for generation or discharge of trade effluent.

Air Quality Management

Sand will be mined manually. No mining equipment would be needed. However, diesel operated tippers/tractors would be used for transportation of sand from mine to stockyard.

I. **Operation of Diesel Equipment's** – They generate Noxious gases. It will be ensured that all transport vehicles would be repaired & maintained regularly.

II. **Loading of Product on tippers** – Water will be sprinkled on blasted Sand mass before they are loaded to trucks for transport.

III. **Movement of tippers on Road** – Movement of tippers on road generate dust. For mitigation of this pollution following measures will be taken

- Regular water sprinkling on Haul road by using water tankers.
- Regular repair of Haul road
- All Trucks carrying Sand outside lease area will have PUC certificate.
- Transport tippers/traders moving on public road will be covered with tarpaulin.

RISK ASSOCIATED WITH PROJECT ACTIVITIES AND THEIR MITIGATION MEASURES ARE DICUSSED BELOW:

Road accidents

Transportation of sand along the public road may cause accident which may cause injury.

Preventive Measures;

1. Ensure speed limit for the haulage vehicle for 40 KMPH.
2. Regular maintenance of haulage road
3. Appropriate navigational signs informing sensitive area like school and habitation
4. Regular maintenance of the vehicles.

Dust generation

- No drilling involved
- Dust mass would be supplied to workers.
- Regular sprinkling of water on road

Noise Generation

Source of noise pollution in the project would be movement of tippers / tractors transporting sand from mine to stock yard. In general tippers / tractors produce a noise level of 75 – 90 (A) measured at distance of 3m from the source.

Preventive measures

- Transportation activities would be confined during day time only.
- There would be a speed limit of 40 kmph for tippers. Higher is speed higher is noise.
- Regular repair and maintenance of tippers/tractors.
- Plantation on both sides of haulage road.
- Tippers having PUC certified will be allowed to be used for sand transportation.

Health Hazards

During digging and handling of sand i.e. loading, transportation and unloading of sand, workmen would be exposed to inhalation of fine dust particles. This poses a health hazard.

Measures

Following mitigation measures would be taken to minimize this impact on health

- Regular water sprinkling on haulage roads
- Tree plantation on both sides of haulage road

- Tippers / Tractors carrying sand would be covered
- Mask would be provided to workmen employed for digging, loading, transportation and unloading activities

Accident at Site

This is a project with only source of accident at site would be movement of tippers /tractors within mine site for transportation of sand.

Preventive measures

Following mitigation measures would be taken to minimize risk of road accident:

- Separate alignment for movement of loaded vehicles coming out of mine site
- Ensure speed restriction of 10 KMPH within mine site for incoming and outgoing tippers
- Regular maintenance and repair of haulage vehicles employed for sand transportation
- No overtaking of transportation vehicles within mine site
- Proper maintenance of haulage roads

Transportation

The usual method of transporting minerals from the working face is by trucks, tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.

c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
k. Personal protective equipments such as protecting clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.
l. Transportation from the river bed will be done using the existing road.
m. The Mining Plan has been prepared and approved in consonance with Enforcement & Monitoring Guidelines for Sand Mining, 2020.
n. Wet sand will not be transported.

Based on the information contained in the documents submitted and the presentation made before the State Level Expert Appraisal Committee (SEAC) during its meetings held during 07, 08, 09, 10 & 11.05.2025, the Committee recommends in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 for issuing of ToR to SEIAA for undertaking detailed EIA / EMP study as mentioned in Annexure IV alongwith following specific condition :-

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. Pre-monsoon data of current year is to be included in final EIA report.
III. Satellite imagery with Geo-Cordinates of pre-monsoon (current year) to be included in the final EIA report.

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10. Makandu Stone Mine of M/s Safari Stone Works, Village : Makandu, Thana : Kuru, Distt.: Lohardaga, Jharkhand (0.6075 Ha).

(Proposal no.: SIA/JH/MIN/530653/2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B1.

Application for Environmental Clearance (EC) after ToR.

The State Expert Appraisal Committee, Jharkhand deliberated the project during its 115th meeting held on 23 - 27.07.2024 and SEIAA, Jharkhand has approved the ToRs in 115th meeting held on 06th & 07th August, 2024. TOR for the project was issued by SEIAA, Jharkhand vide letter no. EC/SEIAA/2024-25/3185/2024/203, dated 13.08.2024. The final EIA / EMP submitted by PP to SEAC on 25.04.2025.

EC Application for: Proposed Capacity- 25011.11 cum/annum or 67530 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Makandu Stone Mine (Area 0.6075 ha. or 1.50 Acre)	
2	Lessee:	:	M/s Safari Stone Works (Proprietor - Anisur Rahman) Makandu Jingi, Thana - Kuru, District – Lohardaga, Jharkhand	
3	Lease Address	:	Village – Makandu, Thana - Kuru, District – Lohardaga, Jharkhand.	
4	Lease Area	:	0.6075 Ha	Acres- 1.50 Acres
5	Type of Land	:	Non-Forest (Raiyati land)	
6	Project Cost	:	Rs. 60 Lakhs	
7	EMP Budget	:	Capital: Rs. 13.30 Lakhs	Recurring: Rs. 6.35 Lakhs/ year
8	New or Expansion	:	New	
9	Mineable Reserves	:	175328.88 cum or 473388 tons	
10	Mine Life	:	10 years	
11	Man power	:	23	
12	Water Requirement	:	9.13 ~ 9.50 KLD, (Drinking: 0.23 KLD, Dust Suppression: 5.02KLD, Plantation: 3.88 KLD)	
13	Water Source	:	From Nearby villages by tankers	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	South Koel River, Approx. 4.70 km towards South direction of mine site	
17	Nearest Habitation	:	Hurhad, Approx. 1.33 KM towards SW direction.	

18	Nearest Railway Station	:	Barkichanpi Railway station, approx. 14.3 km towards West direction.
19	Nearest Air Port	:	Birsa Munda Airport, approx. 51.2 km towards ESE direction.
20	Nearest Forest	:	Open Mixed Jungle, Approx. 0.66 km towards SSE direction of mine site. Henjla, Approx. 4.15 km towards NNE direction of mine site. Open Mixed Jungle, Approx. 3.95 km towards SE direction of mine site. Open Jungle Mainly Sal, Approx. 4.85 km towards North direction of mine site.
21	Road & Highways	:	NH- 39, Approx. 2.8 km. in NNW direction. NH-139A, Approx. 5.9 km. in WNW direction.

CO-ORDINATES

1	Latitude		From 23°30'42.78" N	To 23°30'46.37" N
2	Longitude		From 87°52'05.03" E	To 84°52'09.57" E

LAND DETAILS :

Khata No.		**Plot No.**
New	287	1223 (P)
Old	128	1171/P

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by Director of Mines, Deptt. of Mines & Geology, Govt. of Jharkhand vide letter no. Kha. Ni (Nilami)-10/2022/ 1948, dated 14.09.2022.
2	CO	:	The CO, Kuru vide letter no. 1075, dated 07.10.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO	:	DMO, Lohardaga vide memo no. 585/M, dated 13.05.2023 certified that 02 other mining lease area (9.00 Acre & 3.00 Acre) exists within 500 m radius from proposed project site and total area is 13.5 Acre.
4	DFO Wild Life	:	DFO, Wildlife Ranchi vide letter no. 122, dated 15.02.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.

5	DFO Territorial	:	Divisional Forest Officer, Ranchi West Forest Division, Lohardaga vide letter no. 2218, dated 21.07.2008 ertified that the distance of forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved District Survey Report (DSR) of Lohardaga district (Sl. no. 06, Page no. 41).
7	Gram Sabha	:	Gram Sabha conducted on 01.03.2006.
8	Mine Plan Approval	:	Approved by DMO, Lohardaga vide Letter No. 576/M, dated 05.12.2022.
9	Qualified Person	:	Shri J.P. Bhattacharya vide e-mail dated 24.07.2024 afirmed that the mine plan has been prepared by him.
10	Baseline Study Period	:	March, 2024 to May, 2024.
11	Public Hearing	:	Public Hearing conducted on 04.02.2025.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	Area 0.6075 ha. or 1.50 Acre	Life of Mine – 10 Years
3	Waste Generation	:	6804 cum	
4	Stripping Ratio	:	1:0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	681AMSL to 697AMSL	
8	Ground Level Elevation	:	697AMSL	
9	Ultimate Working Depth	:	647AMSL	
10	Water Table	:	560-565 (42-40 bgl)	
11	Topography of Mine	:	Area represents a undulating topography.	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Run of mine Stone (cum)	Run of mine Stone (t)	Overburden (M^3)	Bench (AMSL)
1st	25011.11	67530	6804	695-689
2nd	25011.11	67530	-	689-683
3rd	25011.11	67530	-	689-677

4th	25011.11	67530	-	683-671
5th	25011.11	67530	-	677-665

Land Use

Type of Land Use	Existing (ha)	End of Five years period (ha)	End of Conceptual stage (ha)
Quarry	0.0815	0.2800	0.4075 (Converted into water reservoir)
Safety Zone	Nil	0.2000 (Plantation)	0.2000 (Plantation)
Dumping area	Nil	0.0300	0.000
Total area in use	**0.0815**	**0.5100**	**0.6075**
Balance area	0.5260	0.0975	Nil
Total Lease Area	**0.6075**	**0.6075**	**0.6075**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.200 Ha	500
2	Along Approach Road	:	670m	1340
3	No. of Plants distributed in Anganwadi, Panchayat Bhawan or in schools	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Solid Waste Management

Total 6804 cum OB generated during the plan period. The overburden materials in the form of morrmy material will be dumped in an area near the junction point of north and western side lease boundaries during five years of mine operation. Later on these materials can be used for

partial filling up of the mined out central region of the worked out quarry. This possibility can be explored at the end of conceptual stage of mine working.

Environment Management Plan

Sl. No	Description	Capital Cost (lakh)	Recurring Cost (lakh)
1	Pollution Control & Dust Suppression	-	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 50,000 40,000 20,000 10,000
3	Plantation	9,70,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	90,000
	As per Public Hearing		
5	Two hand pump in Makandu Village	1,50,000	25000
6	Medical Checkup in nearby Village	---	1,00,000
TOTAL		13,30,000	6,35,000

Note: *1940 plants * 500 Rs (for each plants including hedges and fences) = 9.70 lakh

Salary of Labor for haul road maintenance 1 labor*300 =300 per day

300* 300 = 90000/-

PUBLIC HEARING DETAILS

S. No.	Name and Address	Issues raised by Locals/Public	Replied by Project Proponent Response	Proponent (Response /Action Plan)
1.	Mohd. Nizamuddin, Village-Makandu	He said that the appropriate arrangements should be made to prevent air pollution caused by mining.	Project proponent replied that, the water tankers will be arranged for sprinkling water and water sprinkling will be done on the hall road from time to time.	Mining operations will be undertaken as per the allocated EMP Budget. A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost has been included in EMP.

2.	Sh. Maraj Pawariya, Village-Makandu	He said that the appropriate arrangements for water and employment should be made for the nearby villagers.	Project proponent replied that, the employment will be given as per qualification.	Direct and Indirect employment will be given to 23 Skilled & Un-Skilled personnels Un-Skilled on priority basis. Two hand pump has proposed in makandu village. A sum of Rs. 150000 has been proposed for the same.
3.	Mohd. Rabul, Village-Makandu	He said that the appropriate arrangements should be made to prevent air pollution caused by mining.	Project proponent replied that, the water tankers will be arranged for sprinkling water.	A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost is introduced in EMP for (Water, Shelter & Sanitation) water sprinkling will be done on the hall road from time to time.
4.	Mrs. Juhua Biwi, Village-Makandu	He said that there should be a system to prevent emission of dust particles from mining and to deal with the problems arising due to blasting during mining.	Project proponent replied that, the water tankers will be arranged for sprinkling water and problems arising due to blasting in mining will be resolved.	A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost is introduced in EMP.
5.	MantoraniBiwi, Village-Makandu	He said that arrangements should be made for sprinkling water to prevent dust emission caused by mining vehicles and loading of stone boulders.	Project proponent replied that, the water tankers will be arranged for sprinkling water and problems arising due to blasting in mining will be resolved.	A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost is introduced in EMP for (Water, Shelter & Sanitation) water sprinkling will be done on the hall road from time to time.

6.	KuravanPakiya, Village-Makandu	He told that, during mining, stones generated by blasting and fall into the fields. Appropriate arrangements should be made to prevent this.	Project proponent replied that, the problems arising due to blasting in the mine will be resolved.	Control Blasting will be undertaken by authorized expert so adverse impacts of noise and vibrations will be within prescribed limits. The blasting will be of low impact type with a maximum impact area of 200 m.
7.	Jaheed Khan, Village-Makandu	He said that the appropriate arrangements should be made to prevent problems caused by blasting during mining, problems caused by vehicles used in mining and loading of stone boulders, no wet drilling in mining and air pollution caused by mining.	Project proponent replied that, the problems arising due to blasting in the mine will be resolved. Vehicles used in mining will be transported covered with tarpaulin. Appropriate arrangements will be made to resolve problems caused by loading of stone boulders. Only wet drilling will be done in mining and water tankers will be arranged for sprinkling water.	Control Blasting will be undertaken by authorized expert so adverse impacts of noise and vibrations will be within prescribed limits. The blasting will be of low impact type with a maximum impact area of 500 m. A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost is introduced in EMP for (Water, Shelter & Sanitation) water sprinkling will be done on the hall road from time to time.
8.	Hasnan Khan, Village-Makandu	He said that the arrangements for employment and medical facilities should be made for the nearby villagers.	Project proponent replied that, the Employment will be given as per qualification and medical facilities will be arranged from time to time.	Direct and Indirect employment will be given to 23 Skilled & Un-Skilled personnels Un-Skilled on priority basis. A sum of Rs. 100000 per year has been allocated for regular medical checkup in near by village.

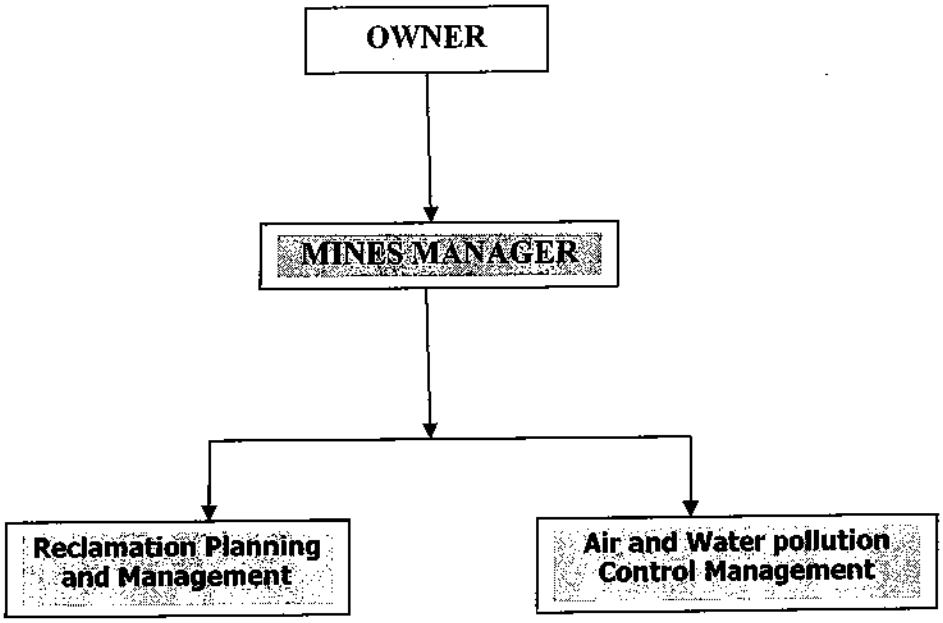
9.	JanualPawariya, Village-Makandu	He asked to prevent dust emission from vehicles used in mining, arrangements should be made for sprinkling water.	Project proponent replied that, the water tankers will be arranged for sprinkling water and water sprinkling will be done on the hall road from time to time.	Mining operations will be undertaken as per the allocated EMP Budget. A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost is introduced in EMP for (Water, Shelter & Sanitation) water sprinkling will be done on the hall road from time to time.
10.	Ayyub Pawariya, Village-Makandu	He said that, to prevent air pollution caused by mining, water should be sprinkled through water sprinklers.	Project proponent replied that, the water tankers will be arranged for sprinkling water and water sprinkling will be done on the hall road from time to time.	Mining operations will be undertaken as per the allocated EMP Budget. A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost is introduced in EMP for (Water, Shelter & Sanitation) water sprinkling will be done on the hall road from time to time.
11.	Sajbul Pawariya, Village-Makandu	He said that, to prevent air pollution caused by mining, arrangements should be made for sprinkling of water and stopping of high speed vehicles.	Project proponent replied that, the water tankers will be arranged for sprinkling water and adequate arrangements will be made to stop fast moving vehicles.	Mining operations will be undertaken as per the allocated EMP Budget. A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost is introduced in EMP for (Water, Shelter & Sanitation) water sprinkling will be done on the hall road from time to time.

12.	RajaulPawariya, Village-Makandu	He said that the mining should be conducted properly and proper arrangements should be made to dispose of the dust generated by it.	Project proponent replied that, the mining will be conducted in a proper manner and adequate arrangements for sprinkling of water will be made to prevent the dust generated by it.	Mining operations will be undertaken as per the allocated EMP Budget. A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost is introduced in EMP for (Water, Shelter & Sanitation) water sprinkling will be done on the hall road from time to time.
13.	Sh. Lalua Pawariya, Village-Makandu	He told that my land is near the mines that are being operated. I have not received any compensation and arrangements should be made for sprinkling water to prevent air pollution caused by mining.	Project proponent replied that, the district administration will be informed and proper arrangement for sprinkling of water will be made to prevent air pollution caused by mining.	Mining operations will be undertaken as per the allocated EMP Budget. A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost is introduced in EMP for (Water, Shelter & Sanitation) water sprinkling will be done on the hall road from time to time.
14.	Mohd. Kabir, Village-Makandu	He said that the employment should be arranged for the nearby villagers.	Project proponent replied that, the employment will be given as per qualification	Direct and Indirect employment will be given to 23 Skilled & Un-Skilled personnels on priority basis.

15.	Sh. SubhanPawariya, Village-Makandu	He said that the employment should be arranged for the nearby villagers.	Project proponent replied that, the employment will be given as per qualification	Direct and Indirect employment will be given to 23 Skilled & Un-Skilled personnels on priority basis. Skill development program camps like computer learning, sewing etc. in Makandu village. @Rs 20,000/trainer (2 trainer)
16	Mohd. Iqwal Khan, Village-Makandu	He said that the employment should be arranged for the nearby villagers and arrangements should be made for sprinkling water to prevent air pollution caused by mining.	Project proponent replied that, the employment will be given as per qualification and arrangement for sprinkling of water will be made to prevent air pollution caused by mining.	Direct and Indirect employment will be given to 23 Skilled & Un-Skilled personnels on priority basis. A Budget of 5.00 lakh as capital cost and 1.50 lakh as recurring cost is introduced in EMP for (Water, Shelter & Sanitation) water sprinkling will be done on the hall road from time to time.

Environment Monitoring Programme

S. No.	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1	5	4	3	2	1

(Catastrophic)					
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.

- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Makandu Stone Mine of M/s Safari Stone Works, Village : Makandu, Thana : Kuru, Distt.: Lohardaga, Jharkhand (0.6075 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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11. Harmu Stone Deposit of Smt. Lovely Chaudhary and Shri Amrit Raj Chaudhary, Village : Harmu, Anchal : Itki, Distt.: Ranchi, Jharkhand (0.837 Ha).

(Proposal no.: SIA/JH/MIN/535636/ 2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 24819 cum/annum or 67011 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Harmu Stone Deposit	
2	Lessee:	:	Smt. Lovely Chaudhary and Sri Amrit Raj Chaudhary	
3	Lessee Address	:	Village +PO-Murkunda, PS-Gumla, Dist.-Gumla, Jharkhand	
4	Lease Area	:	0.837 ha.	Acres- 2.07 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 60.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.36 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	109473.3 cum	295578 Tonnes
10	Mine Life	:	5 years	
11	Man power	:	15	
12	Water Requirement	:	8.96 ~ 9.00 KLD (Drinking: 0.15 KLD, Dust Suppression: 4.73 KLD, Plantation: 4.08 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Karo River, Approx. 4.17 km towards South direction of mine site.	
17	Nearest Habitation	:	Harmu village ~~approx. 0.30 km~~ west direction of mine site.	
18	Nearest Railway Station	:	Itki Railway station, approx. 8.85 km towards North direction.	
19	Nearest Airport	:	Birsa Munda Airport, approx. 21.97 km towards ENE direction.	
20	Nearest Forest	:	Protected Forest, Approx. 1.57 km towards South direction of mine site. Protected Forest, Approx 4.05 km towards East direction of mine site. Protected Forest, Approx 2.5km, towards West direction of mine site. Protected Forest, Approx 1.00km, towards NNW direction of mine site. Open Mixed Jungle Approx. 3.50 km towards SW direction of mine site	
21	Road & Highways	:	NH - 43, Approx. 4.68 km towards North direction.	

CO-ORDINATES

1	Latitude	:	From 23°16' 25.132" N	To 23°16' 28.767" N
2	Longitude	:	From 85°06' 27.640" E	To 85°06' 33.249" E

LAND DETAILS

Plot no.
572, 570, 564 (P), 562 (P) & 573 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Ranchi vide letter no. 299/M, dated 01.03.2025.
2	CO	:	The CO, Itki, Ranchi vide letter no. 22 (ii), dated 17.01.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Ranchi vide memo no. 511/M, dated 26.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 351, dated 06.05.2024 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Ranchi Forest Division vide letter no. 1581, dated 06.05.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Ranchi has been certified vide memo no. 570/M, dated 08.05.2025 that this project is mentioned in approved DSR of Ranchi District as a potential village (Page no. 268, Sl. No. 02 (zone- P2)).
7	Gram Sabha	:	BDO, Itki vide letter no. 331 (ii), dated 26.06.2024 informed that Gram Sabha conducted on 13.01.2024.
8	Mine Plan Approval	:	Approved by DMO, Ranchi vide Memo No. 507/M, dated 24.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	0.837 Ha. or 2.07Acre	Life of Mine –5 years
3	Waste Generation	:	Total 21723 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.19	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	740 AMSL to 735 AMSL	
8	Ground Level Elevation	:	735 AMSL	
9	Ultimate Working Depth	:	715AMSL (20 m BGL)	
10	Water Table	:	705-702AMSL (30-33m BGL)	
11	Topography of Mine	:	The area represents a small hillock topography.	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	100 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Overburden in cum	Intercalated waste in Cum	Total Waste in Cum	Bench Bottom mRL
1st Year	19945	53852	12065	1050	13115	739-727
2nd Year	20397	55071	0	1074	1074	727-727
3rd Year	21119	57020	0	1112	1112	721-715
4th Year	23194	62624	3895	1221	5116	733-721
5th Year	24819	67011	0	1306	1306	721-715
Total	**109474**	**295578**	**15960**	**5763**	**21723**	

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Excavation	0.0	0.404	0.404 (0.301 ha area shall be left as water reservoir, 0.103 ha area shall be backfilled)
Waste Dump	0.00	Nil (waste dump to be removed and backfilled)	Nil (waste dump to be removed and backfilled)
Road	0.0	0.0	0.0
Infrastructure (Crusher)	0.0	0.0	0.0
Safety Zone	0.0	0.433 (Plantation)	0.433 (Plantation)

Total	**0.00**	**0.837**	**0.837**
Unused Area	**0.837**	**0.00**	**0.00**
Total Lease Area	**0.837**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.433 ha	1082
2	Along Approach Road	:	430 m	860
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gablon Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

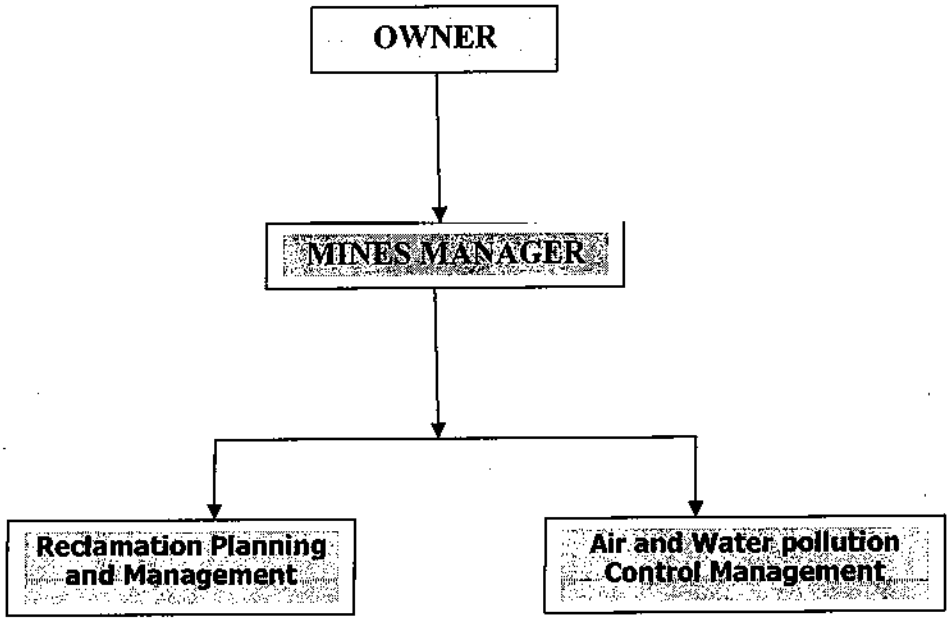
COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	10,21,000	1,00,000
4	Construction and maintenance of haul road	2,15,000	1,50,000
TOTAL		**12,36,000**	**4,87,000**

Note: * 2042 plants * 500 Rs (for each plants including hedges and fences) = 10,21,000
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/-~ 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly



Organization Structure

Solid Waste Management

Total 21723 cum waste generated during the plan period. The 50% of waste generated during the plan period i.e. 10861cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 10861 cum insitu 13576.09 cum loose & 11539.68 cum compact waste shall be temporary dumped in western part during first year, in second and third year the generated waste shall be used for backfilling of workout benches in south eastern part of quarry, and during fourth & fifth years, the generated waste and waste materials of first year dump shall be removed and used for backfilling of exhausted pmt of quarry in northern part and backfilling will cover 0.103ha.

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.

- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss,

		There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling

- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work

in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.

- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Harmu Stone Deposit of Smt. Lovely Chaudhary and Shri Amrit Raj Chaudhary, Village : Harmu, Anchal : Itki, Distt.: Ranchi, Jharkhand (0.837 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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12. Dubjora Stone Deposit of M/s S.R. Stone Mines (Partner : Shri Sanjay Bharti & Shri Rajaram Singh Chauhan), Village : Dubjora, Anchal : Sarwan, Distt. : Deoghar, Jharkhand (1.23 Ha).

(Proposal no.: SIA/JH/MIN/ 533117 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 50004.00 cum/year or 135010.80 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Dubjora Stone Deposit	
2	Lessee:	:	M/s S. R Stone Mines Partner1. Sri Sanjay Bharti,S/O- Late GopalBharti Part. 2. Sri Rajaram Singh Chauhan, S/O- Sri Birendra Prasad Singh	
3	Lessee Address	:	M/s S. R Stone Mines Partner1. Sri Sanjay Bharti,S/O- Late GopalBharti Sakeen-46, Mission School Compound, Thana-SadarHazaribagh, District-Hazaribagh (Jharkhand). Part. 2. Sri Rajaram Singh Chauhan, S/O- Sri Birendra Prasad Singh Village-Kapasio, Post +Thana- Sarawan, District-Deoghar (Jharkhand).	
4	Lease Area	:	1.23ha.	Acres- 3.04 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 13.95 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	250080 cum	675216 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	23	
12	Water Requirement	:	10.03 ~ 10.10KLD (Drinking: 0.23 KLD, Dust Suppression: 5.38 KLD, Plantation: 4.42 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	250 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Mayurakshi River, approx. 2.98 km inEast direction.	
17	Nearest Habitation	:	Barmasiya village approx. 0.44 km NE direction of mine site.	
18	Nearest Railway Station	:	Mathurapur Railway station, approx. 12.43 km towards WNW direction.	

19	Nearest Airport	:	Deoghar Airport, approx. 12.35km towards North direction.
20	Nearest Forest	:	Protected Forest, Approx 3.55 km NW direction from project site. Protected Forest, Approx 3.85 km West direction from project site.
21	Road & Highways	:	NH-114A, Approx. 3.90 km towards NEdirection.

CO-ORDINATES

1	Latitude	:	From 24°20'26.13"N	To 24°20'30.93"N
2	Longitude	:	From 86°45'17.87"E	To 86°45'24.52"E

LAND DETAILS

Khata no.	Plot no.
04 & 16	323, 324, 370 (P), 371 (P), 373 (P) & 376 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 1416/M, dated 11.12.2023.
2	CO	:	The CO, Sarwan vide letter no. 431/Ra., dated 14.06.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II and also mentioned that the habitation within 500 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 294/M, dated 20.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1228, dated 28.06.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1030, dated 13.06.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 48, Sl. No. 46).

7	Gram Sabha	:	BDO, Sarwan vide letter no. 950/Vi., dated 23.08.2023 informed that Gram Sabha conducted on 24.05.2023.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana, Dumka vide Memo No. 20, dated 24.01.2024.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.	
2	Quarry Area	:	1.23 Ha. or 3.04 Acre	Life of Mine – 5.00 years
3	Waste Generation	:	Total 3148 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	224 AMSL to 225 AMSL	
8	Ground Level Elevation	:	224 AMSL	
9	Ultimate Working Depth	:	201 AMSL (23mbgl)	
10	Water Table	:	185-187 AMSL (39-37 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of stone in cum	Production of stone in Tonnes	Total Waste in cum	Bench (AMSL)
1st	44040.00	118908.00	1567.00	225-219
2nd	46080.00	124416.00	1581.00	225-219
3rd	50004.00	135010.80	-	219-213
4th	49848.00	134589.60	-	213-207
5th	43872.00	118454.40	-	207-201
Total	**233844.00**	**631378.80**	**3148.00**	-

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan Period(Ha)	At the Conceptual stage i.e. end of mine life (Ha)
Quarry		0.85	0.85(Entire area shall be left as water reservoir)
Road	0.006	(comes under qry)	(comes under qry)
Safety Zone		0.38 (Plantation)	0.38 (Plantation)
Total Used Area	0.006	**1.23**	**1.23**
Balance	**1.224**	-	-
Total	**1.23**	**1.23**	**1.23**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.38ha	950
2	Along Approach Road	:	580m	1160
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	--	2,00,000

2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	11,05,000	1,00,000
4	Construction and maintenance of haul road	2,90,000	1,50,000
TOTAL		**13,95,000**	**4,87,000**

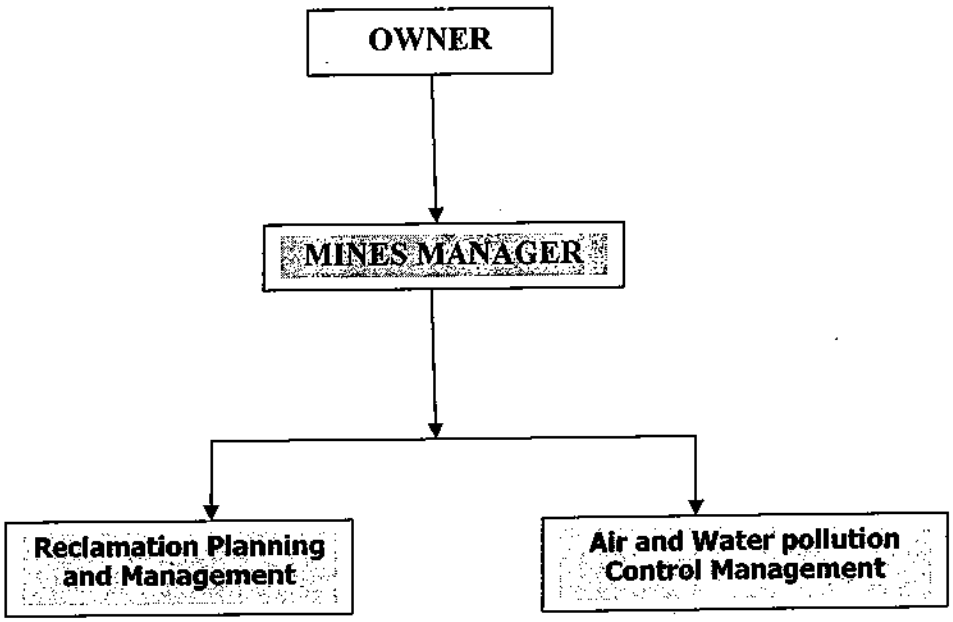
Note: *2210 plants * 500 Rs (for each plants including hedges and fences)= 11.05 lakh
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90,000/- or 1,50,000/- (including maintenance)
**** 5.0 lakh per kilometer (5,00,000* 0.58 km haul road = 2,90,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 3148 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk

during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.

- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the

weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area,

utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Dubjora Stone Deposit of M/s S.R. Stone Mines (Partner : Shri Sanjay Bharti & Shri Rajaram Singh Chauhan), Village : Dubjora, Anchal : Sarwan, Distt. : Deoghar, Jharkhand (1.23 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

13. **Pirhamo Stone Deposit of M/s Shivam Traders (Prop. : Shri Satrughan Mandal), Village : Pirhamo, Thana : Mohanpur, Distt. : Deoghar, Jharkhand (2.399 Ha).**

(Proposal no.: SIA/JH/MIN/ 534551 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 118090 cum or 318842 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Pirhamo Stone Deposit	
2	Lessee:	:	M/s Shivam Traders Proprietor- Sri Satrughan Mandal	
3	Lessee Address	:	M/s Shivam Traders Proprietor- Sri Satrughan Mandal Address- Bhandaro, Po+Ps- Margomunda, District Deoghar, Jharkhand.	
4	Lease Area	:	2.399 ha.	Acres- 5.93 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 19.90 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	596140 cum	1609578 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	23	
12	Water Requirement	:	14.15 ~ 14.20 KLD (Drinking: 0.23 KLD, Dust Suppression: 7.76 KLD, Plantation: 6.16 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Dibjor Nadi, approx. 4.0 km inNNE direction.	
17	Nearest Habitation	:	Pirhamo village approx. 1.12 km inSW direction of mine site.	
18	Nearest Railway Station	:	Kharaiadih Railway Station, approx. 4.13 km towards SSW direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 18.06km towards SW direction.	
20	Nearest Forest	:	Open Jungle,Approx0.20 km ENE direction from project site. Dense Mixed Jungle, Approx4.30 km ESE direction from project site.	
21	Road & Highways	:	NH-133, Approx. 1.77 km towards SEdirection.	

CO-ORDINATES

1	Latitude	:	From 24° 32' 19.4355"	To 24° 32' 26.1312"N
2	Longitude	:	From 86° 51' 00.8839" E	To 86° 51' 07.7845" E

LAND DETAILS

Khata no.	Plot no.
26	373 (P), 374 (P), 375, 376 (P), 377 & 378

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 752/M, dated 21.08.2024.
2	CO	:	The CO, Mohanpur vide letter no. 723/Ra., dated 15.07.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 396/M, dated 11.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1267, dated 29.06.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 946, dated 27.07.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 66, Sl. No. 27).
7	Gram Sabha	:	BDO, Mohanpur vide letter no. 6651/Vi. Dated 11.07.2024 informed that Gram Sabha conducted on 06.07.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 55, dated 05.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi Mechanized Method.

2	Quarry Area	:	2.399 Ha. or 5.93 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 72,254cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.12	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	231 AMSL to 235 AMSL	
8	Ground Level Elevation	:	231 AMSL	
9	Ultimate Working Depth	:	190 AMSL (41 mbgl)	
10	Water Table	:	177-180 AMSL (54-51 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	95 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Production of stones		Total Waste in cum	Bench (AMSL)
	Cum	MT		
1st year	111031	299784	28369	232-214
2nd year	111758	301747	5882	214-202
3rd year	112026	302470	25822	202-220
4th year	113347	306038	5966	220-202
5th year	118090	318842	6215	202-190
Total	**566252**	**1528881**	**72254**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of plan period (Ha)	At Conceptual Period (Ha)
Excavation	Nil	1.927 ha (0.161ha area shall be Backfilled, (1.766 ha area will be converted in to water reservoir)	1.927 ha (0.161ha area shall be Backfilled, (1.766 ha area will be converted in to water reservoir)
Waste Dump	Nil	Nil (waste dump to	Nil (waste dump to

		be removed and backfilled)	be removed and backfilled)
Road	Nil	0.00	0.00
Infrastructure (Crusher)	0.0	0.0	0.0
Safety zone	Nil	0.472(Plantation)	0.472(Plantation)
Total	**0.00**	**2.399**	**2.399**
Unused Area	2.399	0.00	0.00
Total Lease Area	**2.399**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.472ha	1180
2	Along Approach Road	:	900m	1800
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil	--	 14,000 8,000 8,000

	iv) Noise		7,000
3	Plantation	15,40,000	1,00,000
4	Construction and maintenance of haul road	4,50,000	1,50,000
TOTAL		**19,90,000**	**4,87,000**

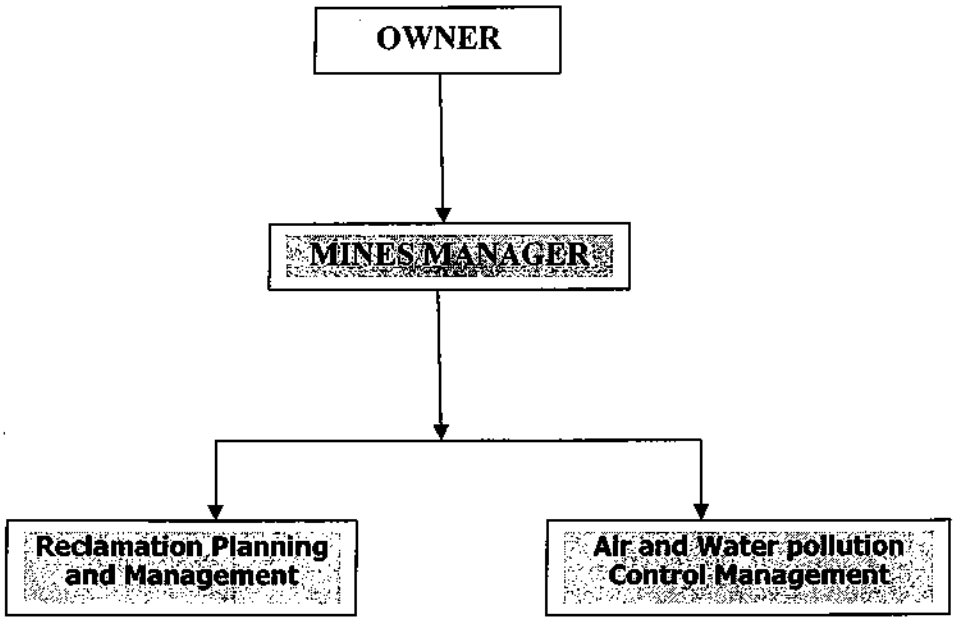
Note: *3080 plants * 500 Rs (for each plants including hedges and fences) = Rs.15, 40,000 lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/-or 1,50,000-(including maintenance)
**** 5.0 lakh per kilometer (500000 * 0.9km haul road = 4, 50,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 72,254 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within

		last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12

3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed

- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Pirhamo Stone Deposit of M/s Shivam Traders (Prop. : Shri Satrughan Mandal), Village : Pirhamo, Thana : Mohanpur, Distt. : Deoghar, Jharkhand (2.399 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

14. Mahjori Stone Deposit of M/s Deva Stone Works (Partbners : (i) Shri Devasis Kumar (ii) Smt. Puja Devi (iii) Shri Pradip Kumar (iv) Shri Tulsi Rai), Village : Mahjori, Anchal : Margomunda, Distt. : Deoghar, Jharkhand (0.979 Ha).

(Proposal no.: SIA/JH/MIN/ 530488 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 25974.90 cum/annum or 70132.23 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Mahjori Stone Deposit	
2	Lessee:	:	M/S Deva Stone Works (Partners: Sri Devasis Kumar S/o- Sri Rajendra Ram, Smt. Puja Devi W/o Naresh Mandal, Sri Pradip Kumar S/o Sri Devendra Rout, Sri Tulsi Rai S/o Sukhan Rai)	
3	Lessee Address	:	1. Sri Devasis Kumar S/o- Sri Rajendra Ram, Vill.+ PO+Thana- Margomunda, Dist. Deoghar, Jharkhand 2. Smt. Puja Devi W/o Naresh Mandal, Vill.-Hansipahari, PO+Thana- Mihijam, Dist-Jamtara, Jharkhand 3. Sri Pradip Kumar S/o Sri Devendra Rout, Vill. Ratanpur, PO+Thana-Jasidih, Dist-Deoghar, Jharkhand 4. Sri. TulsiRai S/o SukhanRai At- Baracharpa, Thana+Anchal-Margomunda, Distt. Deoghar, Jharkhand.	
4	Lease Area	:	0.979ha.	Acres- 2.42 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 40.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 6.04 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	124289 cum	335580.3 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	16	
12	Water Requirement	:	11.225 ~ 11.30 KLD (Drinking: 0.16 KLD, Dust Suppression: 7.025 KLD, Plantation: 4.04 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	250 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Baghdaru Nadi, approx. 0.22 km inENE direction.	
17	Nearest Habitation	:	Naiyadih village approx. 0.39 km inNE direction of mine site.	
18	Nearest Railway	:	Madankata Railway station, approx. 9.34 km towards East direction	

	Station		
19	Nearest Airport	:	Deoghar Airport, approx. 32.48km towards NNE direction.
20	Nearest Forest	:	Protected Forest, Approx, 4.36 km NW direction from project site. Protected Forest, Approx2.85 km NNW direction from project site.
21	Road & Highways	:	NH-114A, Approx. 11.30 km in NNE direction.

CO-ORDINATES

1	Latitude	:	From 24° 9' 51.292" N	To 24° 9' 53.767" N
2	Longitude	:	From 86° 36' 35.138" E	To 86° 36' 43.440" E

LAND DETAILS

Khata no.	Plot no.
45	1260 & 1262

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 836/M, dated 15.06.2023.
2	CO	:	The CO, Margomunda vide letter no. 108/Ra., dated 27.03.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II and also mentioned that the 05 houses at a distance of 250 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 497/M, dated 30.04.2025 certified that 02 other mining lease area (2.00 Acre & 2.38 Acre) exists within 500 meters radius from proposed project site and total area is 6.80 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 992, dated 20.05.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1773, dated 22.12.2022 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 64, Sl. No. 19).

7	Gram Sabha	:	BDO, Margomunda vide letter no. 111/Vi. Dated 06.02.2023 informed that Gram Sabha conducted on 26.12.2022.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 93, dated 27.06.2024.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi Mechanized Method.	
2	Quarry Area	:	0.979 Ha. or 2.42 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 17592.35 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.14	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	239 AMSL to 243 AMSL	
8	Ground Level Elevation	:	239 AMSL	
9	Ultimate Working Depth	:	225 AMSL (14mbgl)	
10	Water Table	:	202-205 AMSL (37-34 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	80 kg/day	
13	Diesel/Fuel requirement	:	100 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in tones	Total Waste in cum	Bench (AMSL)
1st	22230.00	60021.00	5980.00	237
2nd	22971.00	62021.70	3874.00	237-231
3rd	23650.25	63855.68	1244.75	231-225
4th	23189.50	62611.65	5126.50	225-231
5th	25974.90	70132.23	1367.10	231-225
Total	**118015.65**	**318642.26**	**17592.35**	

Land Use

Land Utilization	Existing (Ha)	Plan period (Ha)	Conceptual stage (Ha)
Excavation	0.0	0.534	0.534 ha (0.085 ha area shall be backfilled, 0.449 ha left as water reservoir)
Waste Dump	0.0	Nil (waste dump to be removed and backfilled)	Nil (waste dump to be removed and backfilled)
Road	0.0	0.0	0.0
Infrastructure (crusher)	0.0	0.0	0.0
Safety Zone	0.0	0.445 (Plantation)	0.445 (Plantation)
Total	0.0	**0.979**	**0.979**
Unused Area	**0.979**	0.00	0.0
Lease area	**0.979 Ha**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.445ha	1120
2	Along Approach Road	:	400m	1600
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

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TOTAL		**6,04,000**	**4,87,000**

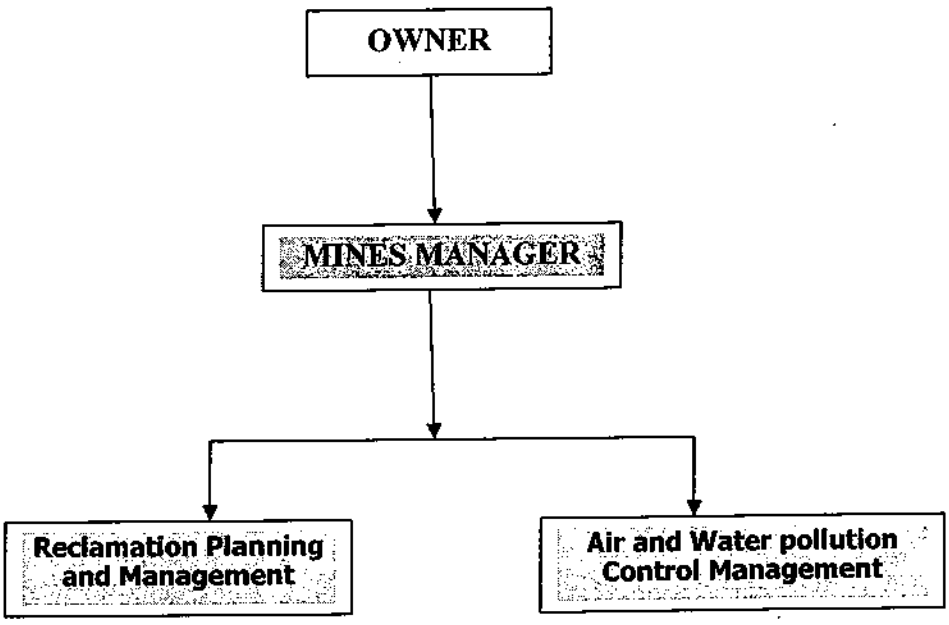
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300* 300 = 90000/-or 1, 50,000 (including maintenance)
**** 2.5 lakh per kilometer (250000 * 0.800 km haul road = 2, 00,000/-)***

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Total 17592.35 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.

L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12

3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed

- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Mahjori Stone Deposit of M/s Deva Stone Works (Partbners : (i) Shri Devasis Kumar (ii) Smt. Puja Devi (iii) Shri Pradip Kumar (iv) Shri Tulsi Rai), Village : Mahjori, Anchal : Margomunda, Distt. : Deoghar, Jharkhand (0.979 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

15. **Sugipahari Stone Deposit of M/s Baba Minerals (Partners : (i) Rajiya Bibi (ii) Shri Ankit Kumar Sontalia (iii) Shri Budhan Ray), Village : Sugipahari, P.S. : Palojori, Distt. : Deoghar, Jharkhand (2.35 Ha).**

(Proposal no.: SIA/JH/MIN/ 532493 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 91230 cum/annum or 246321 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Sugipahari Stone Deposit	
2	Lessee:	:	Baba Minerals Partner – (i) Rajiya Bibi, W/o-Md. Ehateram Ansari (ii) Sri Ankit Kumar Sontalia, S/o- Sri Vinid Kumar Sonthalia (iii) Sri Budhan Ray, S/o Sri Ratu Ray	
3	Lease Address	:	Village : Sugipahari, P.S. : Palojori, Distt. : Deoghar, Jharkhand	
4	Lease Area	:	2.35ha.	Acres- 5.81 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 18.50 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	4,55,580 cum	12,30,066 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	23	
12	Water Requirement	:	13.43 ~ 13.50 KLD (Drinking: 0.23 KLD, Dust Suppression: 7.20 KLD, Plantation: 6.0 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Pond near village Sugipahari, approx. 0.55 km inSWdirection.	
17	Nearest Habitation	:	Balram village ~~approx. 0.56 km~~ inNW direction of mine site.	
18	Nearest Railway Station	:	Basukinath Railway station, approx. 12.85 km towards NE direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 32.22km towards WNW direction.	
20	Nearest Forest	:	--	
21	Road & Highways	:	NH-114A, Approx. 11.19km in NE direction.	

CO-ORDINATES

1	Latitude	:	From 24° 9' 51.292" N	To 24° 9' 53.767" N
2	Longitude	:	From 86° 36' 35.138" E	To 86° 36' 43.440" E

LAND DETAILS

Plot no.
54 (P), 55, 56, 95 (P), 96 (P), 97, 177, 178 (P), 179 & 182 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 610/M, dated 15.07.2024.
2	CO	:	The CO, Palojori vide letter no. 358/Ra., dated 12.05.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 429/M, dated 30.11.2024 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1068, dated 06.06.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1065, dated 26.06.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 48, Sl. No. 45).
7	Gram Sabha	:	CO, Palojori vide memo no. 312/Ra. Dated 03.05.2023 informed that Gram Sabha conducted on 08.05.2023.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 116, dated 27.08.2024.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.	
2	Quarry Area	:	2.35 Ha. or 5.81 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 6989 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.1	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	249 AMSL to 250 AMSL	
8	Ground Level Elevation	:	249 AMSL	
9	Ultimate Working Depth	:	220 AMSL (29 mbgl)	
10	Water Table	:	205-207 AMSL (44-42 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	95 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Production of stone in cum	Production of stone in tonnes	Waste in cum	Bench (AMSL)
1st Year	81600.00	220320.00	4120.00	251-244
2nd Year	87200.00	235440.00	917.00	244-238
3rd Year	91230.00	246321.00	-	238-232
4th Year	90320.00	243864.00	-	232-226
5th Year	68394.00	184663.80	1952.00	226-220
Total	**418744.00**	**1130608.80**	**6989.00**	

Land Use

Land Utilization	Existing (Ha)	Plan period(Ha)	Conceptual stage (Ha)
Quarry	0.0	1.75	1.75 (Entire area shall be left as water reservoir)
Road	0.03	Comes Under Quarry	Comes Under Quarry
Safety Zone	0.0	0.60 (Plantation)	0.60 (Plantation)
Total	**2.32**	**2.35**	**2.35**

Unused Area	0.0	0.00	0.0
Lease area	**2.35**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.60ha	1500
2	Along Approach Road	:	700m	1400
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	15,00,000	1,00,000
4	Construction and maintenance of haul road	3,50,000	1,50,000
TOTAL		**18,50,000**	**4,87,000**

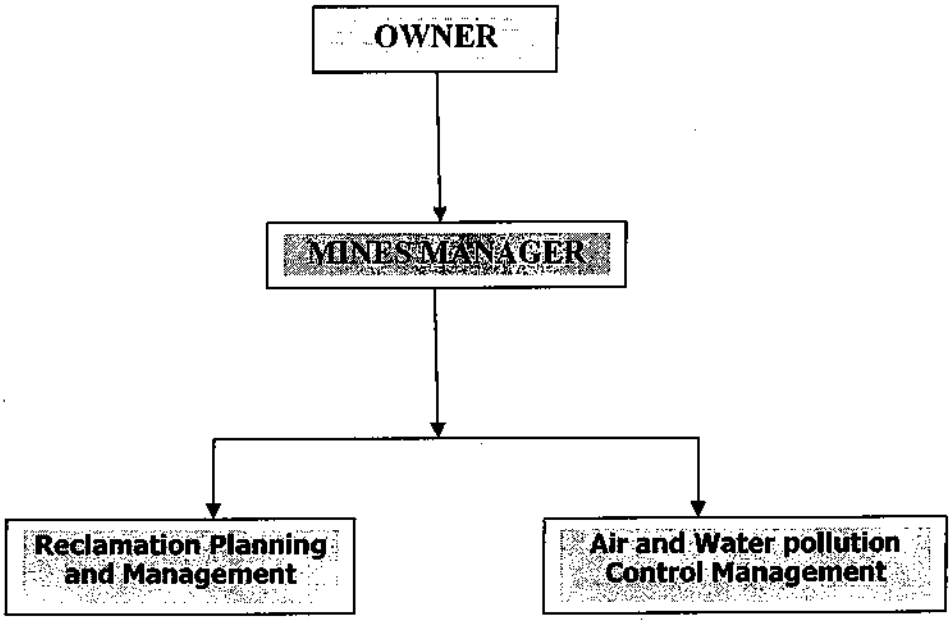
*Note: *3000 plants * 500 Rs (for each plants including hedges and fences) = Rs. 15.00 lakhs*
*Salary of Labor for haul road maintenance 1 labor*300 =300 per day*
300 300 = 90000/-or 1, 50,000 (including maintenance)*

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 6989 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
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constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

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Hazard identification & Risk Analysis in Stone mining operation

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3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
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The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
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- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container

- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Sugipahari Stone Deposit of M/s Baba Minerals (Partners : (i) Rajiya Bibi (ii) Shri Ankit Kumar Sontalia (iii) Shri Budhan Ray), Village : Sugipahari, P.S. : Palojori, Distt. : Deoghar, Jharkhand (2.35 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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16. Pirthibandh Stone Deposit of M/s Shiv Shakti Stone, Mauza : Pirthibandh, Thana : Sarath, Distt. : Deoghar, Jharkhand (2.98 Ha).

(Proposal no.: SIA/JH/MIN/ 530529 /2025)
Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 134876.00 cum/annum or 364165.20 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Pirthibandh Stone Deposit	
2	Lessee:	:	M/s Shiv Shakti Stone Partners: (i) Sri Lalan Kumar Singh (Partner), S/o- Sri Ramraj Singh (ii) Sri Arvind Kumar (Partner), S/o- Sri Bateshwar Prasad Mehta (iii) Sri Anand Kumar Rai (Partner), S/o- Late lagdeesh Rai (iv) Smt. Sarita Mehta (Partner), W/O-Sri Ramchandra Mehta (v) Smt. Aparna Devi (Partner), W/O-Sri Mahesh Rai (vi) Sri Ashok Kumar Rai (Partner), S/O-Late Vindo Prasad Rai.	
3	Lessee Address	:	Sri Lalan Kumar Singh (Partner), S/o- Sri Ramraj Singh At-Village+ P.O.-Bhusai, Thana-Iehak, Dist.-Hazaribag, Jharkhand. Sri Arvind Kumar (Partner), S/o- Sri Bateshwar Prasad Mehta At-Village-Chanda, P.O.+ Thana-Ichak, Dist.-Hazaribag, Jharkhand. Sri Anand Kumar Rai (Partner), S/o- Late JagdeeshRai At-Village+P.O.-Dhodho Kola, Thana-Domchanch, Dist.-Koderma, Jharkhand. Smt. Sarita Mehta (Partner), W/O-Sri Ramchandra Mehta At-Village-Bigha, P.O.-Fulwaria, Thana-Nawalsahi, Dist.-Koderma, Jharkhand Smt. Aparna Devi (Partner), W/O-Sri Mahesh Rai At-Village+P.O.-Dhodho Kola, Thana-Domchanch, Dist.-Koderma, Jharkhand. Sri Ashok Kumar Rai (Partner), S/O-Late Vindo Prasad Rai. At-Village-Hethkarhiya, Thana-Bamandiha, Dist.-Deoghar, Jharkhand.	
4	Lease Area	:	2.98ha.	Acres- 7.37 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 60.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 11.155 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	7,37,300 cum	19,90,710 tonnes

10	Mine Life	:	5.50 years
11	Man power	:	23
12	Water Requirement	:	7.65-8.00 KLD (Drinking: 0.23 KLD, Dust Suppression: 3.79 KLD, Plantation: 3.63 KLD)
13	Water Source	:	Water will be taken from nearby village
14	DG Set / power	:	500 KVA
15	Crusher	:	No Crusher
16	Nearest Water Body	:	Ajay Nadi, approx. 5.00 km in West direction.
17	Nearest Habitation	:	Pirthibandh village ~~approx. 0.22 km~~ in SE direction of mine site.
18	Nearest Railway Station	:	Madhupur Junction, approx 22 km towards West direction.
19	Nearest Airport	:	Deoghar Airport, approx. 22.80km towards NW direction.
20	Nearest Forest	:	--
21	Road & Highways	:	NH-114A, Approx. 2.00km in West direction.

CO-ORDINATES

1	Latitude	:	From 24° 16' 50.54"	To 24° 16' 59.94"N
2	Longitude	:	From 86° 51' 29.05"	To 86° 51' 35.32" E

LAND DETAILS

Khata no.	Plot no.
2 & 3	308, 309, 310, 311, 312 (P) & 320 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 835/M, dated 15.06.2023.
2	CO	:	The CO, Sarath (Deoghar) vide letter no. 367/Ra., dated 28.04.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 296/M, dated 20.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 980, dated 20.05.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 856, dated 10.05.2023 certified that the distance of reserved /

			protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 61, Sl. No. 04).
7	Gram Sabha	:	BDO, Sarath (Deoghar) vide letter no. 1004/Vi. Dated 28.04.2023 informed that Gram Sabha conducted on 24.03.2023.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 325/DDM , dated 10.07.2023.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.	
2	Quarry Area	:	2.98 Ha. or 7.37 Acres	Life of Mine – 5.50 years
3	Waste Generation	:	Total 5109 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.0	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	189 AMSL to 190 AMSL	
8	Ground Level Elevation	:	189 AMSL	
9	Ultimate Working Depth	:	161AMSL (28 mbgl)	
10	Water Table	:	150-152 AMSL (39-37 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	95 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in tones	Total Waste in cum	Bench (AMSL)
1st	123000.00	332100.00	5109.00	190-185
2nd	129500.00	349650.00	--	185-179
3rd	134480.00	363096.00	--	179-173
4th	134876.00	364165.20	--	173-167
5th	134390.00	362853.00	--	167-161
Total	**656246.00**	**1771864.20**	**5109.00**	

Land Use

Land Utilization	Existing (Ha)	Plan period(Ha)	Conceptual stage (Ha)
Quarry	0.0	2.436	2.436 (Entire area shall be left as water reservoir)
Road	0.008	Comes Under Quarry	Comes Under Quarry
Safety Zone	0.0	0.542(Plantation)	0.542 (Plantation)
Balance	2.972	--	--
Total	**2.98**	**2.98**	**2.98**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.542ha	1355
2	Along Approach Road	:	188m	376
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water	--	 14,000 8,000

	iii) Soil iv) Noise		8,000 7,000
3	Plantation	9,15,500	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**11,15,500/**	**4,87,000**

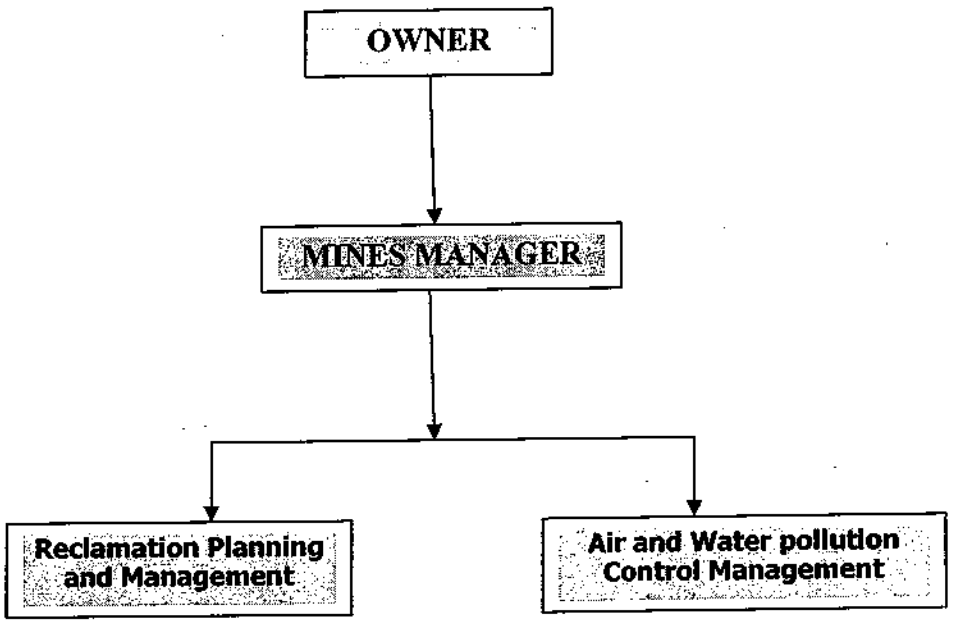
Note: *1831plants * 500 Rs (for each plants including hedges and fences) =9,15,500 Lakh
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/-(including maintenance)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 5109 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

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While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

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- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
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- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
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Undertaking submitted affirming:

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g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Pirthibandh Stone Deposit of M/s Shiv Shakti Stone, Mauza : Pirthibandh, Thana : Sarath, Distt. : Deoghar, Jharkhand (2.98 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

17. Bedia-Bhawradih Stone Deposit of Shri Shyamal Prasad Singh, Village : Bedia & Bhawradih, Anchal : Palojori, Distt. : Deoghar, Jharkhand (1.79 Ha).

(Proposal no.: SIA/JH/MIN/ 535501 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 43539.45 cum/annum or 117556.52 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bedia-Bhawradih Stone Deposit	
2	Lessee:	:	Sri Shyamal Prasad Singh, S/o-Late Rajendra Prasad Singh	
3	Lessee Address	:	Village-Pipra, P.O.-Basbutia, P.S.-Palojori, District-Deoghar, Jharkhand.	
4	Lease Area	:	1.79 ha.	Acres- 4.42 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 70.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 17.00 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	217027.5 cum	585974.25 tonnes
10	Mine Life	:	5 years	
11	Man power	:	23	
12	Water Requirement	:	12.33~ 12.50 KLD (Drinking: 0.23 KLD, Dust Suppression: 6.6 KLD, Plantation: 5.5 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Nunbil nadi, approx. 1.00 km towards SE direction.	
17	Nearest Habitation	:	Bhawradih village approx. 0.50 km in ENE direction of mine site.	
18	Nearest Railway Station	:	Jama Railway station, approx. 17.65 km towards NE direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 44.75 km towards NW direction.	
20	Nearest Forest	:	Protected Forest, Approx. 6.80 km. in East direction of mine site.	
21	Road & Highways	:	NH- 114A, Approx. 19 km in WNW direction.	

CO-ORDINATES

1	Latitude	:	From 24^{0}13'17.48" N	To 24^{0}13'23.59" N
2	Longitude	:	From 87^{0}02' 08.59" E	To 87^{0}02' 17.68" E

LAND DETAILS

Plot no.
116 (P), 117 (P), 1226, 1225, 132 & 579 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 578/M, dated 09.07.2024.
2	CO	:	The CO, Palojori vide letter no. 125 (ii)/Ra., dated 06.02.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 391/M, dated 11.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1201, dated 23.06.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 720, dated 30.05.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 65, Sl. No. 24).
7	Gram Sabha	:	BDO, Palojori vide letter no. 365/Vi. Dated 01.03.2024 informed that Gram Sabha conducted on 10.02.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 61, dated 11.04.2025.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.

2	Quarry Area	:	1.79 Ha or 4.42 Acres.	Life of Mine – 5 years
3	Waste Generation	:	Total 10146.40 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1:0.06	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	214 AMSL to 215 AMSL	
8	Ground Level Elevation	:	214 AMSL	
9	Ultimate Working Depth	:	185 AMSL (29 m bgl)	
10	Water Table	:	172 – 170 AMSL (42 - 44 m bgl)	
11	Topography of Mine	:	Area represents an undulating topography.	
12	Explosive Requirement	:	100 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Waste (cum) in plan period	Bench AMSL
1st	38973.75	105229.13	3102.25	215-209
2nd	43539.45	117556.52	2291.55	209-197
3rd	42180.00	113886.00	2220.00	203-185
4th	21660.00	58482.00	1485.00	215-209
5th	19904.40	53741.88	1047.60	209-197
Total	**166257.60**	**448895.53**	**10146.40**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan Period (Ha)	At the Conceptual stage i.e. end of mine life (Ha)
Quarry	-	1.25	1.25 (Entire area shall be left as water reservoir for rain water harvesting)
Road	-	(comes under qry)	(comes under qry)
Safety Zone	-	0.54 (Plantation)	0.54 (Plantation)
Total Used Area	-	**1.79**	**1.79**

Balance	-	-	-
Total	**1.79**	**1.79**	**1.79**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.54 ha	1350
2	Along Approach Road	:	650 m	1300
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	13,75,000	1,00,000
4	Construction and maintenance of haul road	3,25,000	1,50,000
TOTAL		**17,00,000**	**4,87,000**

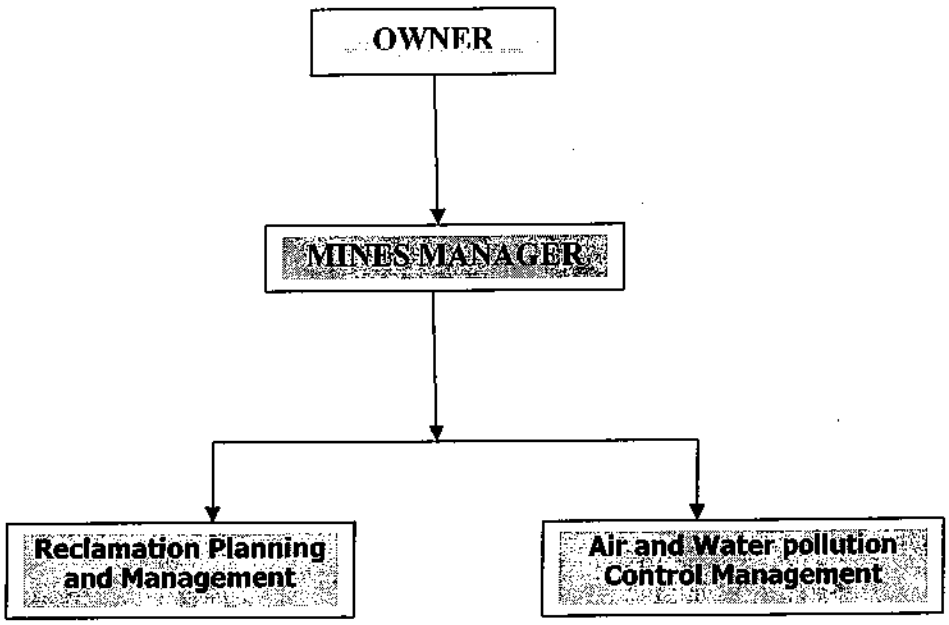
Note: *2750 plants * 500 Rs (for each plants including hedges and fences)= 13.75 lakh
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90,000/- or 1,50,000/- (including maintenance)
**** 5.0 lakh per kilometer (5,00,000* 0.65 km haul road = 3,25,000 /-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 10146.40 cum waste generated during this mining plan period, which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be

constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.

C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

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k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bedia-Bhawradih Stone Deposit of Shri Shyamal Prasad Singh, Village : Bedia & Bhawradih, Anchal : Palojori, Distt. : Deoghar, Jharkhand (1.79 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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18. Titmo Stone Deposit of M/s S.K.R.K. Enterprises, Village : Titmo, Thana : Budhai, Distt. : Deoghar, Jharkhand (1.11 Ha).

(Proposal no.: SIA/JH/MIN/ 533807 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 41824.00 cum/annum or 112924.80 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Titmo Stone Deposit	
2	Lessee:	:	S.K.R.K. Enterprises Partners: 1. Sri Shashi Kumar Mandal, S/o- Late Pitamber Mandal, 2. Smt. Sonam Kumari, D/o-Ram prakash Singh, 3. Sri Bablu Kumar, S/o- Sri Balram Rai, 4. Sri Lakhan Marandi, S/o- Sri Suka rMarandi.	
3	Lease Address	:	1. Sri Shashi Kumar Mandal, S/o- Late Pitamber Mandal, Village Bhandaro, Post+Thana Margomunda, District – Deoghar, Jharkhand. 2. Smt. Sonam Kumari, D/o-Ramprakash Singh, Village Rahanan, Post Mahadev, Sigriya, Thana-Sikandara, District – Jamui, Bihar. 3.Sri Bablu Kumar, S/o- Sri Balram Rai, Address- Postal Park, Navratanpur, Phulwari, District – Patna, Bihar. 4.Sri Lakhan Marandi, S/o- Sri Sukar Marandi, Village Bhulwa, Post Jagdishpur, Thana-Budai, District – Deoghar, Jharkhand.	
4	Lease Area	:	1.11ha.	Acres- 2.74 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 60.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.50 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	2,09,300 cum	5,65,110 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	23	
12	Water Requirement	:	7.03 ~ 7.10 KLD (Drinking: 0.23 KLD, Dust Suppression: 4.8 KLD, Plantation: 2.0 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	250 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Pond near village Titmo, approx. 0.63 km in SE direction.	
17	Nearest Habitation	:	The nearest habitation is approx. 0.32 km in SW direction of mine site.	
18	Nearest Railway	:	Jagdishpur Junction, approx. 3.79 km towards SSW direction.	

	Station		
19	Nearest Airport	:	Deoghar Airport, approx. 23.08km towards SW direction.
20	Nearest Forest	:	Protected Forest, approx. 1.50 km towards NW direction. Protected Forest, approx. 1.30 km towards North direction. Protected Forest, approx. 1.50 km towards NE direction. Protected Forest, approx. 2.50 km towards East direction.
21	Road & Highways	:	NH-114A, Approx. 3.31km in WSW direction.

CO-ORDINATES

1	Latitude	:	From 24° 18' 20.01"	To 24° 18' 24.53"N
2	Longitude	:	From 86° 32' 03.89"	To 86° 32' 08.44" E

LAND DETAILS

Khata no.	Plot no.
16	159, 160, 161, 173,174,175, 176,177,189,190,191,192,193,194,195,196 & 197

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 238/M, dated 15.03.2024.
2	CO	:	The CO, Madhupur vide letter no. 635/Ra., dated 10.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation (15 Houses) within 500 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 328/M, dated 27.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1713, dated 05.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1141, dated 12.07.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.

6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 45, Sl. No. 26).
7	Gram Sabha	:	BDO, Madhupur vide letter no. 1726/Vi. Dated 01.08.2023 informed that Gram Sabha conducted on 25.07.2023.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 87, dated 07.06.2024.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.	
2	Quarry Area	:	1.11 Ha. or 2.74 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 4305cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.2	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	289AMSL to 290 AMSL	
8	Ground Level Elevation	:	289 AMSL	
9	Ultimate Working Depth	:	260 AMSL (29 mbgl)	
10	Water Table	:	250-252 AMSL (39-37 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in tones	Total Waste in cum	Bench (AMSL)
1st	36000.00	97200.00	3157.00	290-284
2nd	38500.00	103950.00	1148.00	284-278
3rd	40160.00	108432.00	-	278-272
4th	41824.00	112924.80	-	272-266
5th	28392.00	76658.40	-	266-260
Total	**184876.00**	**499165.20**	**4305.00**	

Land Use

Type of land	Present Land use (Ha)	At the end of plan period (Ha)	After Life of the Mine (in Ha)
Quarry	-	0.75	0.75 ha (Entire area shall be converted into water reservoir)
Road	0.006	(comes under quarry)	(comes under quarry)
Safety Zone		0.36 (Plantation)	0.36 (Plantation)
Total	**0.006**	**1.11**	**1.11**
Balance	**1.104**	-	-
Total Applied Area	**1.11**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.36ha	900
2	Along Approach Road	:	500m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000

2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	10,00,000	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
TOTAL		**12,50,000**	**4,87,000**

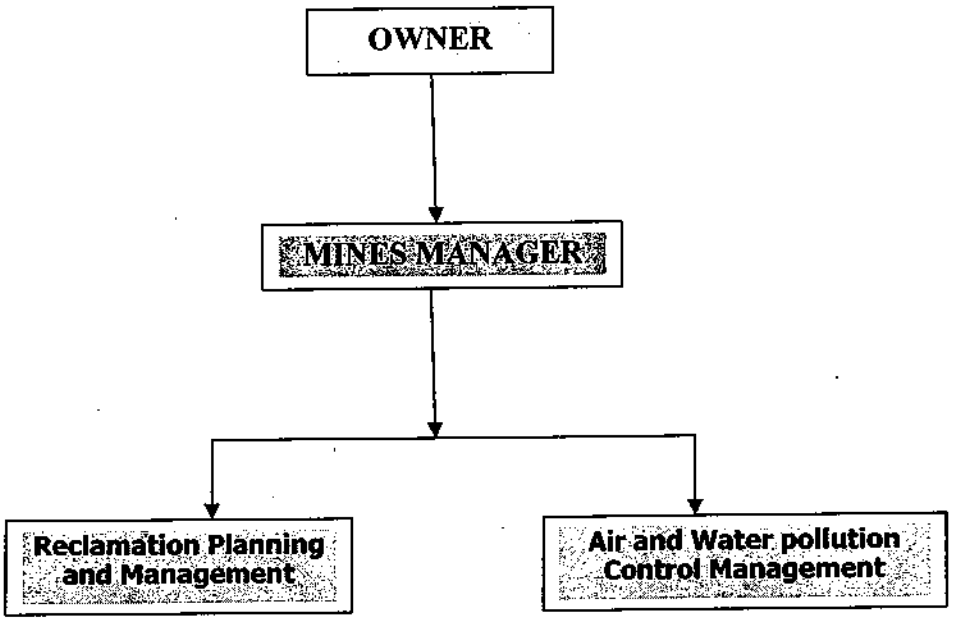
Note: *2000 plants * 500 Rs (for each plants including hedges and fences) = Rs. 10.0lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/-or 1, 50,000-(including maintenance)
**** 5.0 lakh per kilometer (500000 * 0.5km haul road = 2,50,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 4305 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Titmo Stone Deposit of M/s S.K.R.K. Enterprises, Village : Titmo, Thana : Budhai, Distt. : Deoghar, Jharkhand (1.11 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

19. Chapariya Stone Deposit of M/s H.M. Stone Works (Partner : Shri Devendra Yadav & Shri Damrudhar Yadav), Village : Chapariya, Thana : Karon, Distt. : Deoghar, Jharkhand (1.036 Ha).

(Proposal no.: SIA/JH/MIN/ 530523 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 26575.30cum or 71753.31 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Chapariya Stone Deposit	
2	Lessee:	:	M/s H.M Stone Works (Partner- Sri Devendra Yadav & Sri Damrudhar Yadav)	
3	Lease Address	:	Village- Chapariya, Po+ Ps- Pathrol, District- Deoghar, Jharkhand.	
4	Lease Area	:	1.036 ha.	Acres- 2.56 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 40.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 9.525 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1,35,255 cum	3,65,188.5 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	16	
12	Water Requirement	:	6.92-7.00KLD (Drinking: 0.16 KLD, Dust Suppression:3.61 KLD, Plantation: 3.15 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	250 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Jayanti River, approx. 1.37 km in SW direction.	
17	Nearest Habitation	:	The nearest habitation is Jhilua village ~~approx. 0.25 km~~ in SW direction of mine site.	
18	Nearest Railway Station	:	Jaramow Railway station approx. 1.9 km toward SE direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 25.30 km towards NW direction.	
20	Nearest Forest	:	--	
21	Road & Highways	:	NH-114A, Approx. 2.50km in NE direction.	

CO-ORDINATES

1	Latitude	:	From N 24°12' 50.180"	To N 24°12' 55.798"
2	Longitude	:	From E 86°41' 28.119"	To E 86°41' 33.001"

LAND DETAILS

Khata no.	Plot no.
13, 22 & 7	351, 352 (P), 353 (P), 354 (P) & 355

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 138/M, dated 10.02.2024.
2	CO	:	The CO, Karon (Deoghar) vide letter no. 409/Ra., dated 29.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 415/M, dated 12.04.2025 certified that 01 other mining lease area (4.22 Acre) exists within 500 meters radius from proposed project site and total area is 6.78 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1408, dated 10.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 27, dated 06.01.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 50, Sl. No. 56).
7	Gram Sabha	:	BDO, Karon (Deoghar) vide letter no. 959/Vi. Dated 30.08.2023 informed that Gram Sabha conducted on 21.06.2023.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 94, dated 27.06.2024.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method.	
2	Quarry Area	:	1.036 Ha. or 2.56 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 17057.75cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.13	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	212 AMSL to 213 AMSL	
8	Ground Level Elevation	:	212 AMSL	
9	Ultimate Working Depth	:	195AMSL (17mbgl)	
10	Water Table	:	177-180 AMSL (35-32 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	95 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in tones	Total Waste in cum	Bench (AMSL)
1st	25226.30	68111.01	8853.70	207-201
2nd	25631.00	69203.70	1349.00	207
3rd	25361.20	68475.24	1334.80	201-195
4th	25698.45	69385.82	4121.55	201-195
5th	26575.30	71753.31	1398.70	195
Total	**128492.25**	**346929.08**	**17057.75**	

Land Use

Type of land	Present Land use (Ha)	At the end of plan period (Ha)	After Life of the Mine (in Ha)
Quarry	-	0.710	0.710 ha (0.050 ha area shall be backfilled, 0.66 ha will be converted as water reservoir)
Road	0.00	0.00	0.00
Safety Zone		0.326 (Plantation)	0.326(Plantation)

Total	**0.00**	**1.036**	**1.036**
Balance	**1.036**	**0.00**	**0.00**
Total Applied Area	**1.036**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.326ha	815
2	Along Approach Road	:	330m	660
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	--

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	14,000 8,000 8,000 7,000
3	Plantation	7,87,500	1,00,000
4	Construction and maintenance of haul road	1,65,000	1,50,000
TOTAL		**9,52,500**	**4,87,000**

Note: *1575 plants * 500 Rs (for each plants including hedges and fences)= 7.87 lakh
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90,000/- or 1,50,000/- (Including maintenance)

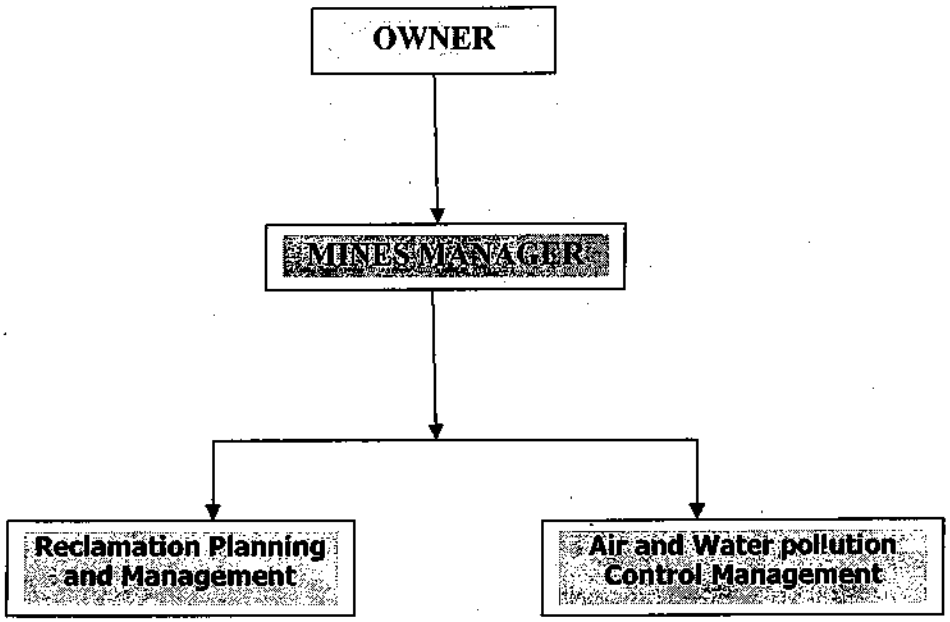
** 5.0 lakh per kilometer (500000 * 0.330 km haul road = 1,65,000 /-)*

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 17057.75 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be

constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or

		major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.
While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.
The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses If the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.

- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Chapariya Stone Deposit of M/s H.M. Stone Works (Partner : Shri Devendra Yadav & Shri Damrudhar Yadav), Village : Chapariya, Thana : Karon, Distt. : Deoghar, Jharkhand (1.036 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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20. Chapariya Stone Deposit of M/s Jai Maa Kali Minerals (Partner : Shri Pritam Kumar & Shri Dhiro Mushahar), Village : Chapariya, Thana : Karon, Distt. : Deoghar, Jharkhand (1.708 Ha).

(Proposal no.: SIA/JH/MIN/ 532849 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 41838.00 cum or 112962.60 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Chapariya Stone Deposit	
2	Lessee:	:	M/s Jai Maa Kali Minerals Partner- Sri Pritam Kumar & Sri Dhiro Mushahar	
3	Lease Address	:	Village : Chapariya, Thana : Karon, Distt. : Deoghar, Jharkhand.	
4	Lease Area	:	1.708ha.	Acres- 4.22 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 40.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.050 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	2,16,612 cum	5,84,852.4 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	16	
12	Water Requirement	:	8.46 ~ 8.50KLD (Drinking: 0.16 KLD, Dust Suppression:4.28 KLD, Plantation: 4.02 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	250 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Jayanti River, approx. 0.97 km in SW direction.	
17	Nearest Habitation	:	The nearest habitation is Jhilua village approx. 0.48 km in West direction of mine site.	
18	Nearest Railway Station	:	Jaramow Railway station approx. 1.6 km toward SE direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 26.00km towards NW direction.	
20	Nearest Forest	:	--	
21	Road & Highways	:	NH-114A, Approx. 2.78km in NE direction.	

CO-ORDINATES

1	Latitude	:	From N 24°12' 36.163"	To N 24°12' 41.110"
2	Longitude	:	From E 86°41' 32.356"	To E 86°41' 42.713"

LAND DETAILS

Khata no.	Plot no.
18	397(P),417, 418, 419, 420, 422, 423, 424, 425, 426, 432, 433, 434, 435, 436, 437, 438, 439, 440 & 441 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 485/M, dated 10.06.2024.
2	CO	:	The CO, Karon (Deoghar) vide letter no. 408/Ra., dated 29.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation (07 Houses) within 500 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 297/M, dated 20.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1407, dated 10.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 28, dated 06.01.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 50, Sl. No. 55).
7	Gram Sabha	:	BDO, Karon (Deoghar) vide letter no. 958/Vi. Dated 30.08.2023 informed that Gram Sabha conducted on 21.06.2023.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Memo No. 107, dated 16.07.2024.

9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method.	
2	Quarry Area	:	1.708 Ha. or 4.22Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 24996.95cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.12	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	206 AMSL to 214 AMSL	
8	Ground Level Elevation	:	206 AMSL	
9	Ultimate Working Depth	:	190AMSL (16 mbgl)	
10	Water Table	:	177-180 AMSL (29-26 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	95 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in tones	Total Waste in cum	Bench (AMSL)
1st	40361.70	108976.59	9935.30	208-202
2nd	40639.10	109725.57	3817.90	202-196
3rd	41055.20	110849.04	2160.80	196
4th	41818.05	112908.74	2200.95	196-190
5th	41838.00	112962.60	6882.00	196-190
Total	**205712.05**	**555422.54**	**24996.95**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan Period (Ha)	After life of mine (Ha)
Excavation	--	1.128	1.128 (0.083 ha area shall be Backfilled, 1.045 ha converted in to water reservoir)

Waste Dump	--	Nil (waste dump to be removed and backfilled)	Nil (waste dump to be removed and backfilled)
Road	--	0.0	--
Infrastructure (Crusher)	--	--	--
Safety Zone	--	0.580 (Plantation)	0.580 (Plantation)
Total	**0.0**	**1.708**	**1.708**
Unused Area	1.708	0.0	0.00
Total Lease Area	**1.708**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.580ha	1450
2	Along Approach Road	:	230m	460
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8000 7,000

3	Plantation	10,05,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**12,05,000**	**4,87,000**

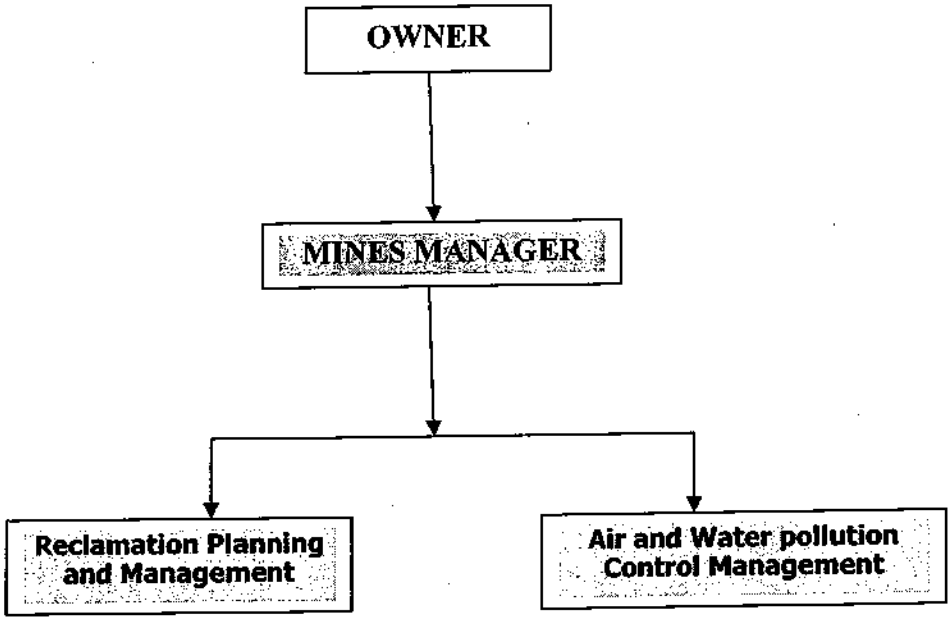
Note: *2010 plants * 500 Rs (for each plants including hedges and fences)= 10.05 lakh
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90,000/- or 1,50,000/- (including maintenance)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 24996.95 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.

- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Chapariya Stone Deposit of M/s Jai Maa Kali Minerals (Partner : Shri Pritam Kumar & Shri Dhiro Mushahar), Village : Chapariya, Thana : Karon, Distt. : Deoghar, Jharkhand (1.708 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLIFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

21. Badiya Stone Deposit of M/s Badiya Enterprises (Partners : (i) Shri Srijal Soren (ii) Shri Pradeep Kumar (iii) Shri Mahendra Pandit (iv) Md. Iftekhar Ansari), Village : Badiya, Thana : Karon, Distt. : Deoghar, Jharkhand (1.04 Ha).

(Proposal no.: SIA/JH/MIN/ 533207 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 26850.00 cum/annum or 72495.00 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Badiya Stone Deposit	
2	Lessee:	:	Badiya Enterprises Partner- 1. Sri Srijal Soren, S/o- Late Mangal Soren, 2. Sri Pradeep Kumar Rai, S/o- Late Bhairo Prasad Rai, 3. Sri Mahendra Pandit, S/o- Sri Ramugan Pandit, 4. Md. Iftekhar Ansari, S/o- Md. Salauddin Ansari.	
3	Lessee Address	:	1. Sri Srijal Soren, S/o- Late Mangal Soren, Village Badiya, Post-Baskupi, Thana Karon, District – Deoghar, Jharkhand. 2. Sri Pradeep Kumar Rai, S/o- Late Bhairo Prasad Rai, Village Benidih, Post- Gadsara, Thana Palojori, District – Deoghar, Jharkhand. 3. Sri Mahendra Pandit, S/o- Sri Ramugan Pandit, Village+Post-Sudan, Thana Valkusa, District – Hazaribagh, Jharkhand. 4. Md. Iftekhar Ansari, S/o- Md. Salauddin Ansari, Sakin Pipra, Post+Thana – Margomunda, District – Deoghar, Jharkhand.	
4	Lease Area	:	1.04ha.	Acres- 2.58 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 50.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 17.375 Lakhs	Recurring: 4.87Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1,34,200 cum	3,62,340 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	23	
12	Water Requirement	:	12.33 ~ 12.50 KLD (Drinking: 0.23 KLD, Dust Suppression:6.75 KLD, Plantation: 5.35 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	300 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Baghdaru River, approx. 0.33 km inNWdirection.	

17	Nearest Habitation	:	The nearest habitation is Bansjora village ~~approx. 0.48km~~ in SW direction of mine site.
18	Nearest Railway Station	:	Madankata Railway station, approx. 5.50 km towards ESE direction.
19	Nearest Airport	:	Deoghar Airport, approx. 29.90km towards Northdirection.
20	Nearest Forest	:	Protected Forest, approx. 3.00 km towards ESE direction. Protected Forest, approx. 4.50 km towards SE direction.
21	Road & Highways	:	NH-114A, Approx. 8.20km in NE direction.

CO-ORDINATES

1	Latitude	:	From N 24°10'39.10"	To N 24°10'46.22"
2	Longitude	:	From E 86°39'05.42"	To E 86°39'09.21"

LAND DETAILS

Plot no.
59 (P), 61, 66, 62, 123, 124 & 125 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 131/M, dated 08.02.2024.
2	CO	:	The CO, Karon (Deoghar) vide letter no. 184/Ra., dated 03.04.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 489/M, dated 28.04.2025 certified that 01 other mining lease area (4.00 Acre) exists within 500 meters radius from proposed project site and total area is 6.58 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 834, dated 26.04.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 704, dated 27.04.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 49, Sl. No. 53).

7	Gram Sabha	:	BDO, Karon (Deoghar) vide letter no. 232/Vi. Dated 03.04.2023 informed that Gram Sabha conducted on 18.03.2023.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Memo No. 81, dated 17.05.2024.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method.	
2	Quarry Area	:	1.04 Ha. or 2.58Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 4367cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.04	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	214 AMSL to 215 AMSL	
8	Ground Level Elevation	:	214 AMSL	
9	Ultimate Working Depth	:	191AMSL (23 mbgl)	
10	Water Table	:	180-182 AMSL (34-32 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	100 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in tones	Total Waste in cum	Bench (AMSL)
1st	21500.00	58050.00	1816.00	215-209
2nd	23500.00	63450.00	1967.00	209-203
3rd	26850.00	72495.00	584.00	209-203
4th	25800.00	69660.00	-	203-197
5th	5720.00	49653.00	-	197-191
Total	**103370.00**	**313308.00**	**4367.00**	

Land Use

Pattern of Utilization	Existing (Ha)	At the End of Plan Period (In Ha.)	At the End of Mine (In Ha.)
Quarry	Nil	0.65	0.65 (Entire area shall be left as water reservoir)
Safety Zone	Nil	0.39 (plantation)	0.39 (plantation)
Road	0.006	Nil	Nil
Total area in use	**0.006**	**1.04**	**1.04**
Balance Unused Area	1.034	Nil	Nil
Total Applied Area	**1.04**	**1.04**	**1.04**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.39ha	975
2	Along Approach Road	:	800m	1600
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

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TOTAL		**17,37,500**	**4,87,000**

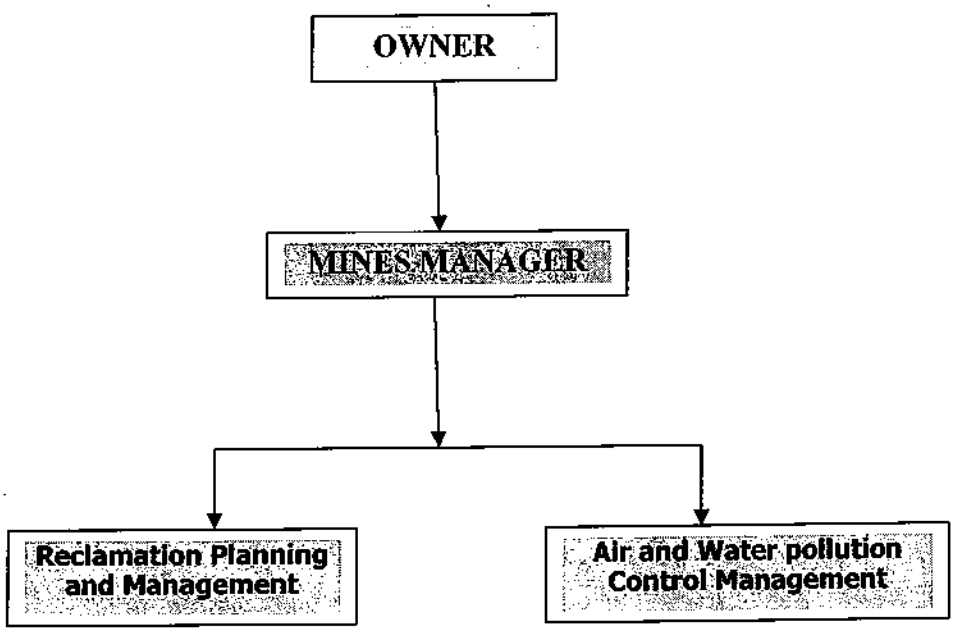
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**** 5.0 lakh per kilometer (500000 * 0.80 km haul road = 4,00,000/-)***

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Solid Waste Management

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Organization Structure

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- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Badiya Stone Deposit of M/s Badiya Enterprises (Partners : (i) Shri Srijal Soren (ii) Shri Pradeep Kumar (iii) Shri Mahendra Pandit (iv) Md. Iftekhar Ansari), Village : Badiya, Thana : Karon, Distt. : Deoghar, Jharkhand (1.04 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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22. Jamuasol Stone Deposit of M/s Subhadra Stone Works (Prop. : Shri Bidyanand Ray), Village : Jamuasol, P.S. : Sarath, Distt. : Deoghar, Jharkhand (1.95 Ha).

(Proposal no.: SIA/JH/MIN/ 530460 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 77544.00 cum/annum or 209368.80 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Jamuasol Stone Deposit	
2	Lessee:	:	Subhadra Stone Works (Prop. - Sri Bidyanand Ray)	
3	Lessee Address	:	Subhadra Stone Works Prop. - Sri Bidyanand Ray, S/o-Sri Manohar Prasad Ray Address- Village- Barguniyan, P.O.- Kasathi, P.S.- Devipur, Dist.- Deoghar, State-Jharkhand	
4	Lease Area	:	1.95ha.	Acres- 4.82 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 14.58 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	3,87,600 cum	10,46,520 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	23	
12	Water Requirement	:	10.65 ~ 10.70 KLD (Drinking: 0.23 KLD, Dust Suppression:5.63 KLD, Plantation: 4.79 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	300 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ajay River, approx. 6.20 km in West direction.	
17	Nearest Habitation	:	The nearest habitation is Jamuasol village approx. 0.75 km in SE direction of mine site.	
18	Nearest Railway Station	:	Joramow Railway station, approx. 18.86 km towards West direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 30.01km towards NWdirection.	
20	Nearest Forest	:	Protected Forest, approx. 3.50 km towards NE direction. Protected Forest, approx. 4.00 km towards Eastdirection.	

21	Road & Highways	:	NH-114A, Approx. 0.97km in West direction.

CO-ORDINATES

1	Latitude	:	From N 24° 13' 21.79"	To N 24° 12' 26.48"
2	Longitude	:	From E 86° 53' 20.98"	To E 86° 53' 31.20"

LAND DETAILS

Plot no.
1396, 1435, 1406, 1407, 1408, 1409, 1410, 1411, 1412, 1413, 1413, 1414, 1417 & 1418

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 531/M, dated 25.06.2024.
2	CO	:	The CO, Sarath vide letter no. 107/Ra., dated 03.02.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 390/M, dated 11.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 246, dated 10.02.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 264, dated 17.02.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 65, Sl. No. 21).
7	Gram Sabha	:	BDO, Sarath (Deoghar) vide letter no. 122/Vi. Dated 13.01.2024 informed that Gram Sabha conducted on 13.01.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 102, dated 09.07.2024.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and

			affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.	
2	Quarry Area	:	1.95 Ha. or 4.82 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 5084 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	214 AMSL to 215 AMSL	
8	Ground Level Elevation	:	214 AMSL	
9	Ultimate Working Depth	:	185 AMSL (29 mbgl)	
10	Water Table	:	170-172 AMSL (44-42 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	95 kg/day	
13	Diesel/Fuel requirement	:	110 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in tones	Total Waste in cum	Bench (AMSL)
1st	68000.00	183600.00	3956.00	215-209
2nd	74660.00	201582.00	1128.00	209-203
3rd	77544.00	209368.80	-	203-197
4th	51288.00	138477.60	-	197-191
5th	48004.00	129610.80	-	191-185
Total	**319496.00**	**862639.20**	**5084.00**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	0.0	1.45	1.45 (Entire area shall be converted into water reservoir)

Road	0.0	Comes Under Quarry	Comes Under Quarry
Safety Zone	0.0	0.50 (Plantation)	0.50 (Plantation)
Total	0.0	1.95	1.95
Unused Area	1.95	0.00	0.00
Total Lease Area	**1.95**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.50 ha	1250
2	Along Approach Road	:	523m	1046
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	11,98,000	1,00,000
4	Construction and maintenance of haul road	2,60,000	1,50,000

TOTAL	14,58,000	4,87,000

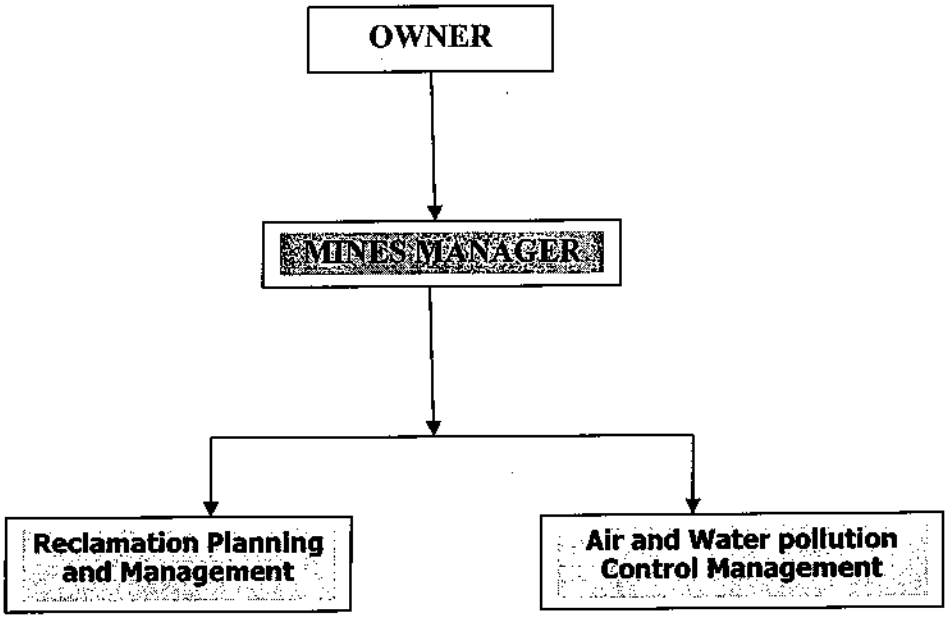
Note: *2396 plants * 500 Rs (for each plants including hedges and fences) = Rs. 11,98,000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 5084 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.

- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
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Hazard identification & Risk Analysis in Stone mining operation

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3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
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The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
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Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling

- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

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Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

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Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.

- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Jamuasol Stone Deposit of M/s Subhadra Stone Works (Prop. : Shri Bidyanand Ray), Village : Jamuasol, P.S. : Sarath, Distt. : Deoghar, Jharkhand (1.95 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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23. Thariara Stone Deposit of M/s Baidyanath Stone Mines (Partners. : (i) Shri Nilesh Kumar (ii) Shri Akash Kumar Singh (iii) Shri Santosh Kumar (iv) Shri Pramod Kumar), Village : Thariara, P.S. : Mohanpur, Distt. : Deoghar, Jharkhand (1.01 Ha).

(Proposal no.: SIA/JH/MIN/ 532338 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 51960 cum/annum or 140292 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Thariara Stone Deposit	
2	Lessee:	:	M/s Baidyanath Stone Mines, Partner – (i) Sri Nilesh Kumar, (ii) Sri Akash Kumar Singh, (iii) Sri Santosh Kumar, (iv) Sri Promod Kumar	
3	Lease Address	:	Village – Thariara , P.S.- Mohanpur, District – Deoghar, State - Jharkhand	
4	Lease Area	:	1.01 ha.	Acres- 2.51 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 70.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 16.625 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	259700.00 cum	701190.00 Tonnes
10	Mine Life	:	05 years	
11	Man power	:	23	
12	Water Requirement	:	11.78 ~ 11.80 KLD Drinking: 0.23 KLD, Dust Suppression: 6.45 KLD, Plantation: 5.1 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Mayurakshi River, Approx. 0.55 km.in North direction.	
17	Nearest Habitation	:	Sibnagar, ~~Approx. 0.25 km~~ towards NE direction.	
18	Nearest Railway Station	:	Harlatanr Railway station, approx. 4.35 km towards NE direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 19.55 km towards WSW direction.	
20	Nearest Forest	:	Open mixed jungle, Approx. 3.5 km.in SW direction.	

			Open mixed jungle, Approx. 2.0 km.in N direction.
21	Road & Highways	:	NH - 133, Approx. 2.88 km towards N direction.

CO-ORDINATES

1	Latitude	:	From 24°30'14.76" N	To 24°30'19.85" N
2	Longitude	:	From 86°53'12.04"E	To 86°53'17.31"E

LAND DETAILS

Plot no.
1283(P), 1284, 1285, 1286, 1287, 1288, 1290, 1291, 1292, 1293, 1294, 1295, 1296, 1297(P), 1298, 1299

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 826/M, dated 19.09.2024.
2	CO	:	The CO, Mohanpur vide letter no. 725/Ra., dated 15.07.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 21/M, dated 07.01.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1784, dated 13.08.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 585, dated 18.04.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 66, Sl. No. 28).
7	Gram Sabha	:	BDO, Mohanpur (Deoghar) vide letter no. 666/Vi. Dated 12.07.2024 informed that Gram Sabha conducted on 21.03.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Memo No. 05, dated 07.01.2025.

9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	1.01 Ha. or 2.51Acre	Life of Mine –05 years
3	Waste Generation	:	Total 4156 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	221 AMSL to 220 AMSL	
8	Ground Level Elevation	:	220 AMSL	
9	Ultimate Working Depth	:	190 AMSL (30 m BGL)	
10	Water Table	:	177-175 AMSL (43-45 m BGL)	
11	Topography of Mine	:	The area represents an undulating topography.	
12	Explosive Requirement	:	80 kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Production of stone in cum	Production of stone in tonnes	Waste in cum	Bench AMSL
1st Year	47000.00	126900.00	3124.00	220-214
2nd Year	51960.00	140292.00	1032.00	220-208
3rd Year	47380.00	127926.00	-	214-202
4th Year	38120.00	102924.00	-	208-196
5th Year	25472.00	68774.40	-	196-190
Total	**209932.00**	**566816.40**	**4156.00**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	0.0	0.65	0.65 (Entire area shall be left as water reservoir for rain water harvesting)
Road	0.0	Comes Under Quarry	Comes Under Quarry

Safety Zone	0.0	0.36 (Plantation)	0.36 (Plantation)
Total	0.0	1.01	1.01
Unused Area	1.01	0.00	0.00
Total Lease Area	**1.01**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.36 ha	900
2	Along Approach Road	:	775 m	1550
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	12,75,000	1,00,000
4	Construction and maintenance of haul road	3,87,500	1,50,000
TOTAL		**16,62,500**	**4,87,000**

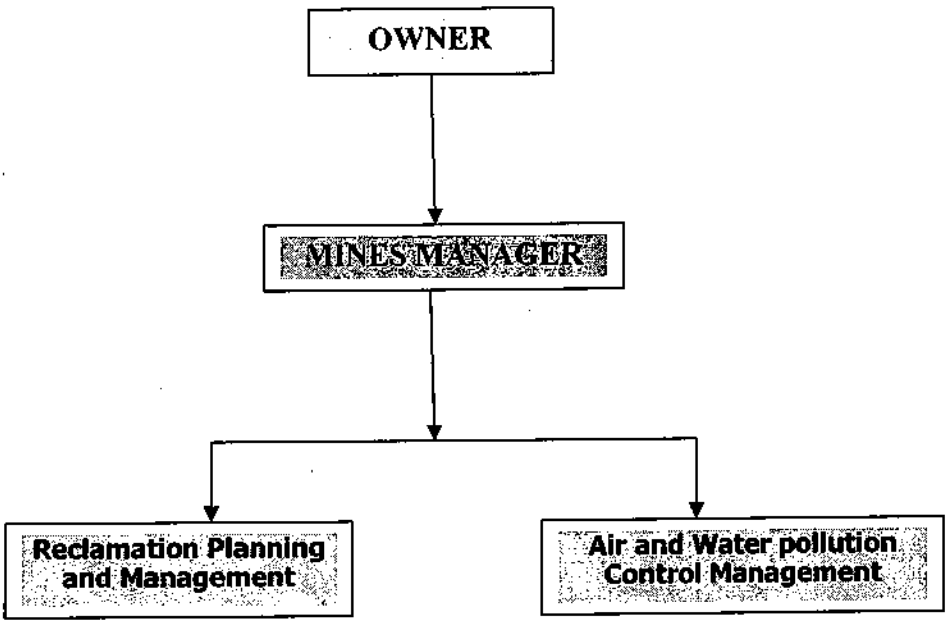
Note: *2550 plants * 500 Rs (for each plants including hedges and fences) = Rs. 12,75,000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 4156.00 cum waste during the plan period, which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before

allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the

		unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling

- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
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The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

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Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Thariara Stone Deposit of M/s Baidyanath Stone Mines (Partners. : (i) Shri Nilesh Kumar (ii) Shri Akash Kumar Singh (iii) Shri Santosh Kumar (iv) Shri Pramod Kumar), Village : Thariara, P.S. : Mohanpur, Distt. : Deoghar, Jharkhand (1.01 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

24. Kalajor Stone Deposit of M/s Shivguru Stone (Partners. : (i) Shri Prakash Kumar (ii) Shri Kishor Modi (iii) Shri Rajkishor Yadav), Village : Kalajor, Thana : Madhupur, Distt. : Deoghar, Jharkhand (0.967 Ha).

(Proposal no.: SIA/JH/MIN/ 532610 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 27769.00 cum/annum or 74974.00 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Kalajor Stone Deposit	
2	Lessee:	:	M/s Shivguru Stone (Partner 1. Sri Prakash Kumar Yadav, S/o Sri Lakhan Yadav, 2. Sri Kishor Modi, S/o- Bhagwani Modi, 3. Sri Rajkishor Yadav, S/o- Late- Bishu Mahto.	
3	Lessee Address	:	1. Sri Prakash Kumar Yadav, S/o Sri Lakhan Yadav Chondhi tanr, Dhanwar, Dist-Giridih, Jharkhand. 2. Sri Kishor Modi, S/o- Bhagwani Modi Village- Dhanwar,Dist-Giridih, Jharkhand. 3. Sri Rajkishor Yadav, S/o- Late- Bishu Mahto Village-Govindpur, Jamua, Giridih, Jharkhand.	
4	Lease Area	:	0.967 ha.	Acres- 2.39 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 60.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 14.575 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1,39,317.50 cum	376157.25 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	20	
12	Water Requirement	:	10.36 ~ 10.50 KLD (Drinking: 0.20 KLD, Dust Suppression:5.63 KLD, Plantation: 4.53 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	250 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	River near village Kalajor, approx. 0.27 km in NE direction.	
17	Nearest Habitation	:	The nearest habitation is Kalajor village approx. 0.070 km in SE direction of mine site.	
18	Nearest Railway Station	:	Madhupur Junction, approx. 7.17 km towards ENE direction.	

19	Nearest Airport	:	Deoghar Airport, approx. 25.41 km towards NNE direction.
20	Nearest Forest	:	--
21	Road & Highways	:	NH-114A, Approx. 3.58 km in North direction.

CO-ORDINATES

1	Latitude	:	From N 24°14' 36.71452"	To N 24°14' 41.86867"
2	Longitude	:	From E 86°34' 34.99118"	To E 86°34' 39.80086"

LAND DETAILS

Khata no.	Plot no.
27	486, 487, 488, 489, 490, 491, 493, 494, 495 & 496 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 435/M, dated 04.12.2024.
2	CO	:	The CO, Madhupur vide letter no. 535/Ra., dated 06.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation (03 houses) at a distance of 250 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 22/M, dated 07.01.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2276, dated 05.11.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1298, dated 28.09.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 67, Sl. No. 34).
7	Gram Sabha	:	BDO, Madhupur vide letter no. 1270/Vi. Dated 18.09.2024 informed that Gram Sabha conducted on 15.09.2024.
8	Mine Plan	:	Approved by The Assistant Director Geology, District Geological

	Approval		Office, Deoghar vide Memo No. 04, dated 04.01.2025.
9	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.	
2	Quarry Area	:	0.967 Ha. or 2.39 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 18159 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.13	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	248 AMSL to 252 AMSL	
8	Ground Level Elevation	:	220 AMSL	
9	Ultimate Working Depth	:	226 AMSL	
10	Water Table	:	210 AMSL	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	85 kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in tones	Total Waste in cum	Bench (AMSL)
1st	27769.00	74974.00	4157.00	250-232
2nd	27769.00	74974.00	6822.00	232-244
3rd	27740.00	74898.00	4260.00	250-238
4th	27740.00	74898.00	1460.00	244-232
5th	27740.00	74898.00	1460.00	238-226
Total	**138758.00**	**374642.00**	**18159.00**	

Land Use

Pattern of Utilization	Exhisting Land Use (Ha)	At the end of plan period (Ha)	At Conceptual Period (Ha)
Excavation	Nil	0.620	0.620 (Entire area

			will be converted into water reservoir)
Waste Dump	Nil	Come under the mining plan	Come under the mining plan
Road	Nil	0.001	0.001
Plantation	Nil	0.346 (Plantation)	0.346 (Plantation)
Total	--	0.967	0.967
Total Lease Area	**0.967**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.346 ha	865
2	Along Approach Road	:	650 m	1300
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000

3	Plantation	11,32,500	1,00,000
4	Construction and maintenance of haul road	3,25,000	1,50,000
TOTAL		**14,57,500**	**4,87,000**

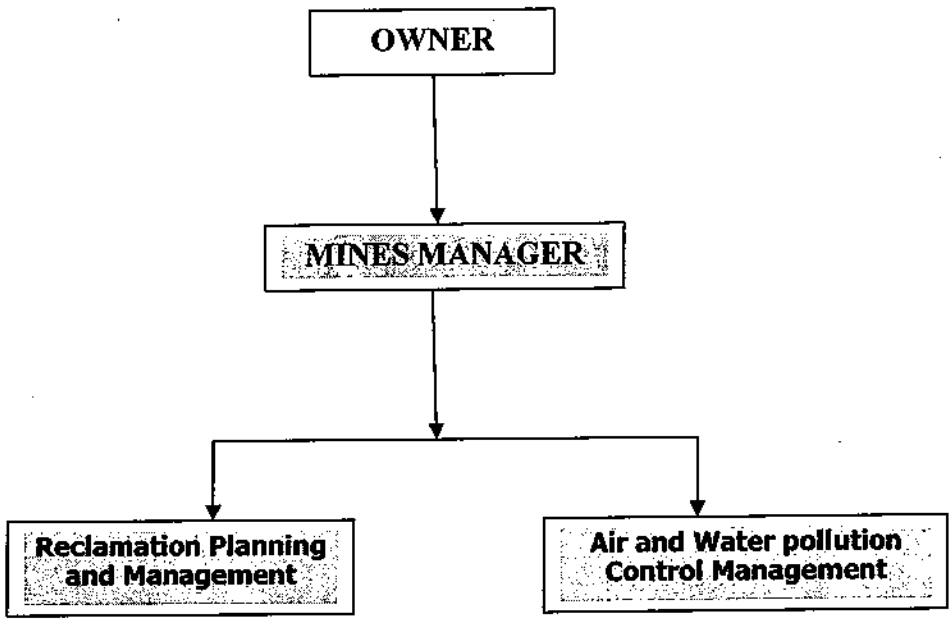
Note: *2265 plants * 500 Rs (for each plants including hedges and fences) = Rs.11.325 lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/-or 1,50,000-(including maintenance)
**** 5.0 lakh per kilometer (500000 * 0.65km haul road = 3,25,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 18159 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

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- Time pressure
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- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
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I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kalajor Stone Deposit of M/s Shivguru Stone (Partners. : (i) Shri Prakash Kumar (ii) Shri Kishor Modi (iii) Shri Rajkishor Yadav), Village : Kalajor, Thana : Madhupur, Distt. : Deoghar, Jharkhand (0.967 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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25. **Bargunia Stone Deposit of Shri Om Prakash Gupta, Village : Bargunia, Anchal : Devipur, Distt. : Deoghar, Jharkhand (2.076 Ha).**

(Proposal no.: SIA/JH/MIN/ 535038 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 61708 cum/annum or 172783 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bargunia Stone Deposit	
2	Lessee:	:	Sri Om Prakash Gupta	
3	Lessee Address	:	At Village & P.O - Barlanga, Thana - Barlanga, Gola District - Ramgarh, Pin Code - 629110, State – Jharkhand.	
4	Lease Area	:	2.076 ha.	Acres- 5.13 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 80.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 9.225 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	308468 cum	863710 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	34	
12	Water Requirement	:	5.98 ~ 6.00 KLD (Drinking: 0.34 KLD, Dust Suppression:2.759 KLD, Plantation: 2.89 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Pathro Nadi, approx. 1.73 km in SW direction.	
17	Nearest Habitation	:	The nearest habitation is Ujanpur village ~~approx. 0.26km~~ in NW direction of mine site.	
18	Nearest Railway Station	:	Mathurapur Railway station, approx. 2.47 km towards NNE direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 13.95 km towards NE direction.	
20	Nearest Forest	:	Protected forest approx. 4.50 km towards North direction. Protected forest approx. 3.85 km towards North direction. Protected forest approx. 3.85 km towards ENE direction.	
21	Road & Highways	:	NH-114A, Approx. 5.66 km in SW direction.	

CO-ORDINATES

1	Latitude	:	From N 24°20'31.510"	To N 24°20'37.761"
2	Longitude	:	From E 86°37'18.333"	To E 86°37'26.082"

LAND DETAILS

Plot no.
105 (P), 112 (P), 113 (P), 114 (P), 115 (P), 116 & 117 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 346/M, dated 03.04.2025.
2	CO	:	The CO, Devipur vide letter no. 146/Ra., dated 03.03.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 435/M, dated 19.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 353, dated 03.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 224, dated 03.03.2025 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 50, Sl. No. 57).
7	Gram Sabha	:	BDO, Devipur vide letter no. 170/Vi. Dated 03.03.2025 informed that Gram Sabha conducted on 24.02.2025.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 69/G, dated 19.04.2025.
9	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.

2	Quarry Area	:	2.076 Ha. or 5.13 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 16235 cum intercalated waste & 14345 cum gritty soil waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	220 AMSL to 230 AMSL	
8	Ground Level Elevation	:	220 AMSL	
9	Ultimate Working Depth	:	181 AMSL	
10	Water Table	:	173 AMSL	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	95 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of stone	Production of stone	Intercalated waste	Removal of gritty soil		Bench (AMSL)
	in cum	in tonnes	in cum	in cum	in tonnes	
1st	61667	172665	3245	9566	14349	230-218
2nd	61682	172710	3247	4779	7169	218-212
3rd	61708	172783	3248	000	000	212-206
4th	61682	172710	3247	000	000	206-200
5th	61708	172783	3248	000	000	200-194
Total	**308447**	**863651**	**16235**	**14345**	**21518**	

Land Use

Type of land	Present land use	At the end of plan period	At the end of mine	Conceptual period		
				Public use	Water body	Plantation
Quarry	--	1.565 ha (including backfill 0.309 ha)	1.565 ha (including backfill 0.309 ha)	--	1.565 ha	--
Safety Zone	--	0.511 (Plantation)	0.511 (Plantation)	--	--	0.511

Road	0.045	--	--	--	--	--
Total area in use	**0.045**	**2.076**	**2.076**	**--**	**1.565**	**0.511**
Balance area unused	2.031	--	--	--	--	--
Total applied area	**2.076**					

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.511 ha	1277
2	Along Approach Road	:	34 m	68
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	7,22,500	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**9,22,500**	**4,87,000**

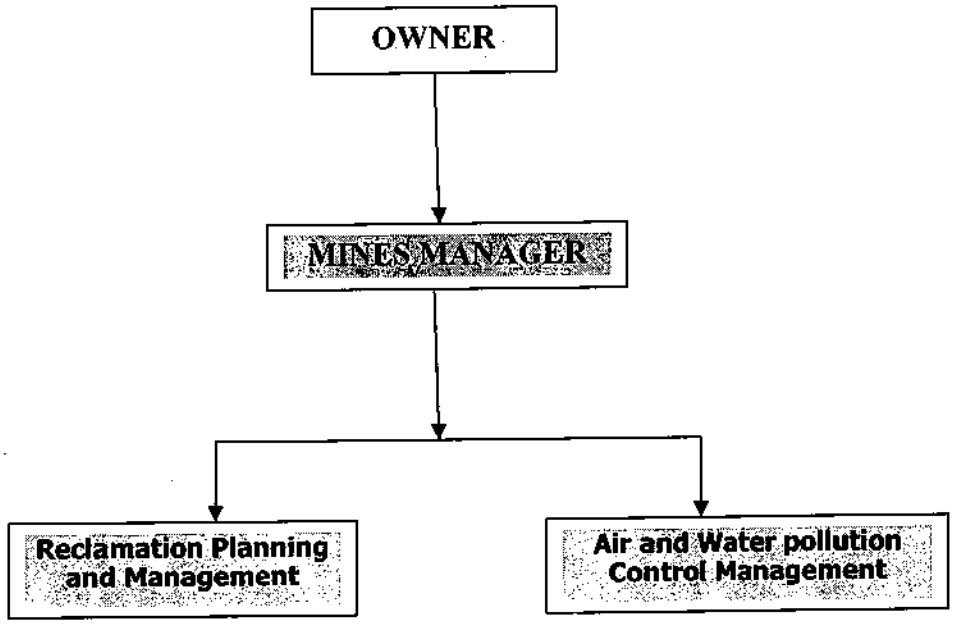
Note: 1445 plants * 500 Rs (for each plants including hedges and fences) = Rs.7,22,500/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 16235 cum intercalated waste & 14345 cum gritty soil waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.

- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss,

		There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.

- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.

- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bargunia Stone Deposit of Shri Om Prakash Gupta, Village : Bargunia, Anchal : Devipur, Distt. : Deoghar, Jharkhand (2.076 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

26. Jarmundi Stone Deposit of M/s Regan Stone Works (Partner : Rezwan Reza Khan & Others), Village : Jarmundi, Anchal : Palojori, Distt. : Deoghar, Jharkhand (1.24 Ha).

(Proposal no.: SIA/JH/MIN/ 534903 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 45090 cum/annum or 121743 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Jarmundi Stone Deposit	
2	Lessee:	:	Regan Stone Works Partner- (1- Rezwan Reza Khan, S/o Ekhilaque Khan, Part-2- Sri Roshan Kumar, S/o Sri Krishnanand Singh, Part-3-Sri Rajesh Kumar, S/o Sri Suresh Prasad Sah, Part-4- Sri Dhan Murmu, S/o Sri Balu Murmu).	
3	Lessee Address	:	Address- Village-Bherwa, Nawadih, Madhupur, District-Deoghar, Jharkhand. Village-Dhawabad, P.O.-Kukraha,Thana-Citra, District-Deoghar, Jharkhand. Village+P.O. + Thana-Chitra, District-Deoghar, Jharkhand. Village-Jarmundi, P.O.-Dubrajpur, P.S.-Palojori, District-Deoghar, Jharkhand.	
4	Lease Area	:	1.24 ha.	Acres- 3.06 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.95 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	224880 cum	607176 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	23	
12	Water Requirement	:	9.63 ~ 9.70 KLD (Drinking: 0.23KLD, Dust Suppression:4.98KLD, Plantation: 4.42 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Pond near village Barmasia, approx. 0.78 km in NE direction.	
17	Nearest Habitation	:	The nearest habitation is Jarmundi village ~~approx. 0.15 km~~ in SE direction of mine site.	
18	Nearest Railway Station	:	Chandanpahari Railway station, approx. 20.85 km towards N direction.	

19	Nearest Airport	:	Deoghar Airport, approx. 35.58 km towards NW direction
20	Nearest Forest	:	Protected forest approx. 2.50 km towards NW direction. Protected forest approx. 3.00 km towards NW direction.
21	Road & Highways	:	NH-114A, Approx. 2.09 km in NW direction.

CO-ORDINATES

1	Latitude	:	From N 24°12'31.75"	To N 24°12'36.23"
2	Longitude	:	From E 86°56'54.70"	To E 86°57'02.40"

LAND DETAILS

Plot no.
408, 409(P), 418, 419, 420(P), 421(P), 423, 424, 460, 413, 414, 415, 412, & 416,

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 643/M, dated 25.07.2024.
2	CO	:	The CO, Palojori vide letter no. 472/Ra., dated 24.06.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 385/M, dated 09.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1850, dated 23.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1218, dated 26.07.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 66, Sl. No. 26).
7	Gram Sabha	:	CO, Palojori vide memo no. 419/Ra. Dated 06.06.2023 informed that Gram Sabha conducted on 24.06.2023.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Memo No. 117, dated 31.08.2024.

9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.	
2	Quarry Area	:	1.24 Ha. or 3.06 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 3953 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	249 AMSL to 250 AMSL	
8	Ground Level Elevation	:	230 AMSL	
9	Ultimate Working Depth	:	220 AMSL	
10	Water Table	:	205 AMSL	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	98 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Waste (cum)	Bench (AMSL)
1st	40600.00	109620.00	1984.00	250-244
2nd	43610.00	117747.00	617.00	244-238
3rd	45090.00	121743.00	-	238-232
4th	38432.00	103766.40	-	232-226
5th	22436.00	60577.20	1352.00	226-220
Total	**190168.00**	**513453.60**	**3953.00**	

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	0.0	0.70	0.70 (Entire area shall be converted into water reservoir)

Road	0.0	Comes under quarry	Comes under quarry
Safety Zone	0.0	0.54 (Plantation)	0.54 (Plantation)
Total	**0.0**	**1.24**	**1.24**
Unused Area	**0.0**	**0.0**	**0.0**
Total Lease Area	**1.24**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.54 ha	1350
2	Along Approach Road	:	380 m	760
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	11,05,000	1,00,000
4	Construction and maintenance of haul road	1,90,000	1,50,000

TOTAL	12,95,000	4,87,000

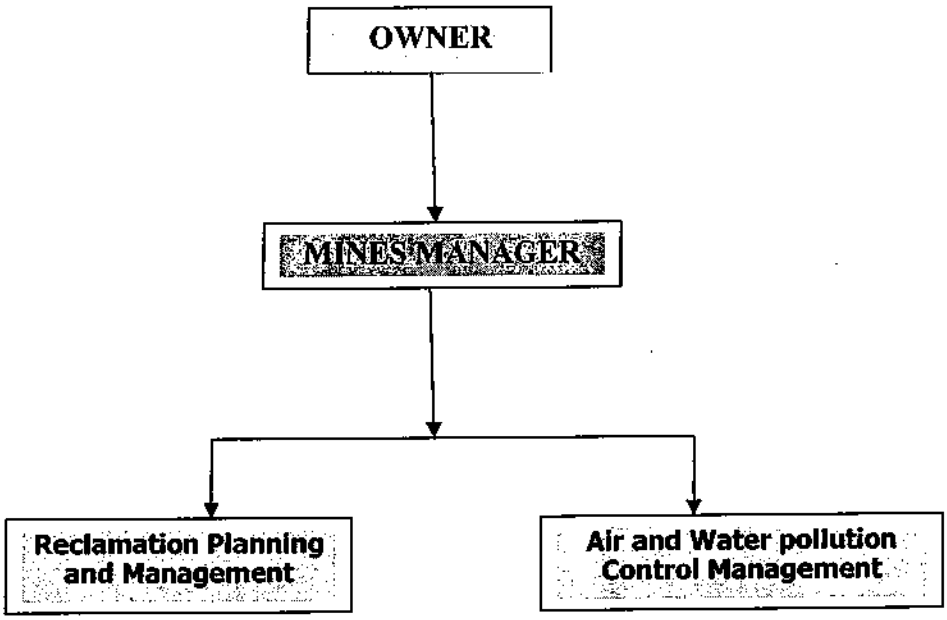
Note: *2210 plants * 500 Rs (for each plants including hedges and fences) = Rs. 11,05,000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 3953 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.

- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss,

		There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	**L5 (Very Unlikely)**	**L4 (Remote)**	**L3 (Occasional)**	**L2 (Probable)**	**L1 (Frequent)**
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling

- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.

- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.

- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Jarmundi Stone Deposit of M/s Regan Stone Works (Partner : Rezwan Reza Khan & Others), Village : Jarmundi, Anchal : Palojori, Distt. : Deoghar, Jharkhand (1.24 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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27. Gori Pahari Stone Deposit of M/s Vedant Minerals (Prop. : Shri Raj Kumar Ojha), Mouza : Gori Pahari, Circle : Madhupur, Distt. : Deoghar, Jharkhand (2.752 Ha).

(Proposal no.: SIA/JH/MIN/ 533643 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 180565.00 cum/annum or 505582.00 MTPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Gori Pahari Stone Deposit	
2	Lessee:	:	M/s Vendant Minerals (Proprietor: Raj Kumar Ojha S/o Lt. Hari Shankar Ojha)	
3	Lessee Address	:	Address- Vill + P.O- Isri Bazar, P.S. - Nimiyaghat, Dist- Giridih, District- Jharkhand.	
4	Lease Area	:	2.752 ha.	Acres- 6.80 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 17.45 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	921180 cum	2579304 tonnes
10	Mine Life	:	5.00 years	
11	Man power	:	22	
12	Water Requirement	:	13.02 ~ 13.10 KLD (Drinking: 0.22 KLD, Dust Suppression: 6.78 KLD, Plantation: 6.02 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	Yes	
16	Nearest Water Body	:	Parhro Nadi, approx. 0.66 km in SW direction.	
17	Nearest Habitation	:	The nearest habitation is Gori Pahari village ~~approx. 0.52 km~~ in NE direction of mine site.	
18	Nearest Railway Station	:	Nawapatra Railway station, approx. 4.76 km towards West direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 14.79 km towards North direction	
20	Nearest Forest	:	Protected forest approx. 0.11 km towards North direction. Protected forest approx. 2.75 km towards SW direction.	
21	Road & Highways	:	NH-114A, Approx. 6.16 km in SW direction.	

CO-ORDINATES

1	Latitude	:	From 24°18'19.74" N	To 24°18'29.25" N
2	Longitude	:	From 86°41'32.59" E	To 86°41'39.12" E

LAND DETAILS

Plot no.
148 (P), 150 (P), 151, 152, 153 & 155 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 489/M, dated 26.04.2023.
2	CO	:	The CO, Madhupur vide letter no. 751/Ra., dated 10.11.2022 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 181/M, dated 25.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2619, dated 28.12.2022 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1747, dated 14.12.2022 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 67, Sl. No. 32).
7	Gram Sabha	:	BDO, Madhupur vide letter no. 3186/Vi. Dated 01.12.2022 informed that Gram Sabha conducted on 28.11.2022.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Letter No. 313/DDM, dated 04.07.2023.
9	Qualified Person	:	Shri Surendra Sai was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Fully Mechanized Method (OTFM)

2	Quarry Area	:	2.752 Ha. or 6.80 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 40043.60 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.04	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	208 AMSL to 218 AMSL	
8	Ground Level Elevation	:	208 AMSL	
9	Ultimate Working Depth	:	182 AMSL	
10	Water Table	:	181 AMSL	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	98 kg/day	
13	Diesel/Fuel requirement	:	150 litre/day	

Production Details

Year	Total excavation of stone cum	Stone		Total waste In cum	Bench (AMSL)
		Cum	MT		
Ist Year	184250.00	180565.00	505582.00	13805.00	206-194
IInd Year	184250.00	180565.00	505582.00	4785.0	206-182
IIIrd Year	184250.00	180565.00	505582.00	7095.00	206-182
IVth Year	184230.00	180545.00	505527.12	4674.60	206-194
Vth Year	184200.00	180516.00	50444.80	9684.00	212-194
Total	**921180.00**	**902756.40**	**252777.92**	**40043.60**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan Period (Ha)	At the Conceptual stage i.e. end of mine life (Ha)
Excavation	-	1.968	1.968 (0.135ha area shall be Backfilled, 1.833ha converted in to water reservoir.
Road	-	-	-

Waste dump	-	0.3 (comes under mining)	-
Proposed crusher	-	0.2 (comes under mining)	-
Safety Zone	-	0.784 (Plantation)	0.784 (Plantation)
Untouched Area	2.752		
Total	**2.752**	**2.752**	**2.752**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.784 ha	1950
2	Along Approach Road	:	480 m	960
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000

3	Plantation	15,05,000	1,00,000
4	Construction and maintenance of haul road	2,40,000	1,50,000
TOTAL		**17,45,000**	**4,87,000**

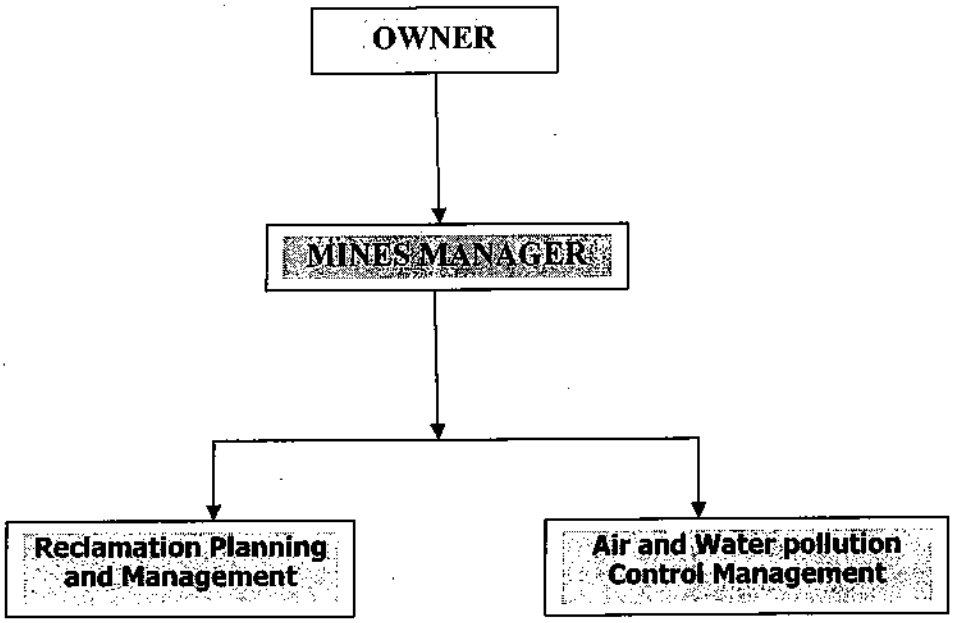
Note: *3010 plants * 500 Rs (for each plants including hedges and fences)= 15.05 lakh
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90,000/- or 1,50,000/- (including maintenance)
**** 5.0 lakh per kilometer (5,00,000* 0.48 km haul road = 2,40,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 40043.60 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within

		last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed

- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.

- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the

weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming

vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Gori Pahari Stone Deposit of M/s Vedant Minerals (Prop. : Shri Raj Kumar Ojha), Mouza : Gori Pahari, Circle : Madhupur, Distt. : Deoghar, Jharkhand (2.752 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

28. Laharjori Stone Deposit of M/s Shree Keshav Stone (Partners : (i) Smt. Ful Kumari Devi (ii) Smt. Sumani Devi (iii) Smt. Kranti Devi), Village : Laharjori, P.O. : Karanjo, P.S. : Margomunda, Distt. : Deoghar, Jharkhand (2.03 Ha).

(Proposal no.: SIA/JH/MIN/ 535495 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 51188.00 cum/annum or 138207.60 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Laharjori Stone Deposit	
2	Lessee:	:	M/s Shree Keshav Stone, (Partners: (i) Smt. Ful Kumari Devi, (ii) Smt. Sumani Devi, iii) Smt. Kranti Devi)	
3	Lease Address	:	Village – Laharjori, P.O- Karanjo, P.S. - Margomunda, District – Deoghar, State- Jharkhand.	
4	Lease Area	:	2.03 ha.	Acres- 5.01 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 13.15 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	255720 cum	690444.00 tonnes
10	Mine Life	:	05 years	
11	Man power	:	23	
12	Water Requirement	:	9.63 ~ 10 KLD (Drinking: 0.23 KLD, Dust Suppression: 4.94 KLD, Plantation: 4.46 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Jainti Nadi, Approx. 1.0 km towards South direction of mine site.	
17	Nearest Habitation	:	village approx. 0.32 Km SW direction of mine site.	
18	Nearest Railway Station	:	Madankata Railway station, approx. 7.50 km toward East direction.	
19	Nearest Airport	:	Birsa Munda Airport, approx. 165.0 km towards North direction.	
20	Nearest Forest	:	PF, Approx. 4.90 km towards NW direction of mine site. PF , Approx. 5.60 km towards SW direction of mine site	
21	Road & Highways	:	NH-114A, Approx. 11.89 km. in NE direction.	

CO-ORDINATES

1	Latitude	:	From 24°09' 17.60" N	To 24°09' 27.61"N
2	Longitude	:	From 86° 36' 26.81" E	To 86° 36' 32.15" E

LAND DETAILS

Khata no.	Plot no.
14	2266(P), 2267(P), 2268(P), 2270(P), 2275(P), 2276, 2277, 2278, 2279(P), 2282(P), 2283, 2284, 2285, 2287(P), 2288(P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 484/M, dated 10.06.2024.
2	CO	:	The CO, Margomunda vide letter no. 70/Ra., dated 12.03.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation (10 Houses) within 500 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 329/M, dated 27.03.2025 certified that 01 other mining lease area (4.19 Acre) exists within 500 meters radius from proposed project site and total area is 9.2 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 448, dated 13.03.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 286, dated 20.02.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 44, Sl. No. 16). Only plot no. 2283 has not been mentioned therein. PAs has submitted a certificate of DMO, Deoghar issued vide its letter no. 505/M, Dated 02.05.2025 in which it has been mentioned that mistakenly the plot no. 2283 has not been mentioned in the DSR. However, the LoI issued to the said project vide its letter no. 484/M, dated 10.06.2024 includes all the plot number i.e. 2266(P), 2267(P), 2268(P), 2270(P), 2275(P), 2276,

			2277, 2278, 2279(P), 2282(P), 2283, 2284, 2285, 2287(P), 2288(P) and further requested to consider the said project proposal as part of chapter 13 (LoI Holder list in the District) of approved District Survey Report & also requested that this project may be taken up for consideration for grant of EC. The Committee accepted the request of the DMO, Deoghar.
7	Gram Sabha	:	BDO, Margomunda vide letter no. 341/Vi. Dated 29.02.2024 informed that Gram Sabha conducted on 26.02.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Memo No. 104, dated 11.07.2024.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.03 ha or 5.01 Acres	Life of Mine – 05 Years
3	Waste Generation	:	Total 4786.00 cum waste will be generated during plan period.	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	239 AMSL to 240 AMSL	
8	Ground Level Elevation	:	239 AMSL	
9	Ultimate Working Depth	:	210 AMSL (29 m bgl)	
10	Water Table	:	202-200 AMSL (37-39 m bgl)	
11	Topography of Mine	:	Area represents an undulating topography.	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	140 litre/day	

Production Details

Year	Production of stone in cum	Production of stone in Tonnes	waste In cum	Bench AMSL
1st	48000.00	129600.00	2354.00	240-234
2nd	49840.00	134568.00	1481.00	240-228

3rd	51188.00	138207.60	951.00	240-228
4th	50829.00	137238.30	-	234-222
5th	35568.00	96033.60	-	222-210
Total	**235425.00**	**635647.50**	**4786.00**	

Land Use

Pattern of Utilization	Existing (Ha)	During Plan Period (ha)	After Life of Mine (ha)
Quarry	--	1.45	1.45 (Entire area shall be left as water reservoir)
Safety Zone	--	0.58 (Plantation)	0.58 (Plantation)
Road	--	(comes under qry)	(comes under qry)
Total area in use	**--**	**2.03**	**2.03**
Unused Area	2.03	--	--
Lease hold area	**2.03**	**2.03**	**2.03**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.58 ha	1450
2	Along Approach Road	:	340 m	680
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (lakh)	Recurring Cost (..kh)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Pollution Monitoring i) Air pollution ii) Water pollution iii) Soil Pollution iv) Noise Pollution	--	 14,000 8,000 8,000 7,000
3	Plantation	11,15,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**13,15,000**	**4,87,000**

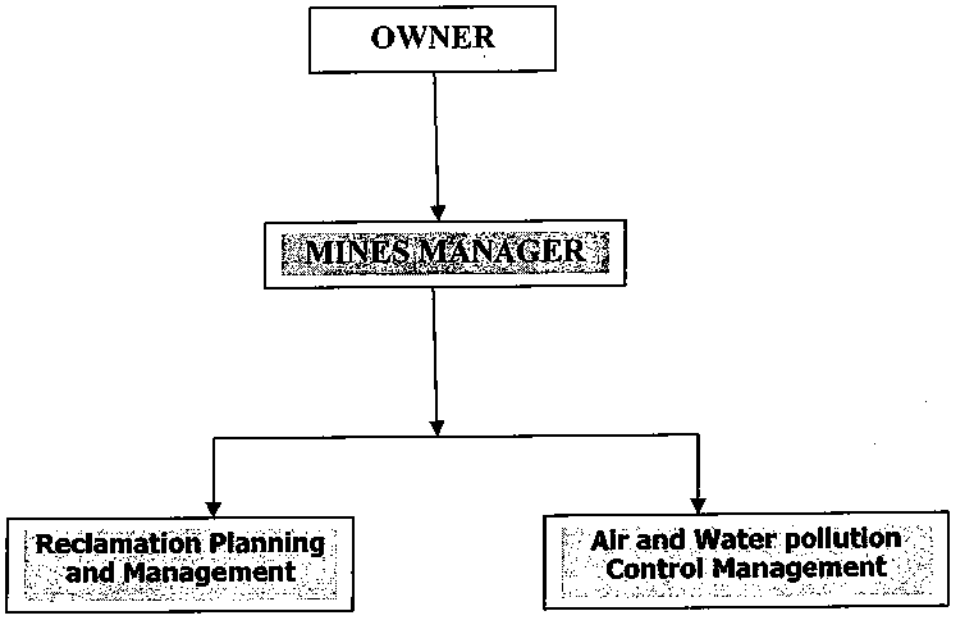
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Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90,000/-1,50,000/- (including maintenance)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 4786.00 cum waste during the plan period will be generated which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period.



Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.

L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12

3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed

- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement

- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Laharjori Stone Deposit of M/s Shree Keshav Stone (Partners : (i) Smt. Ful Kumari Devi (ii) Smt. Sumani Devi (iii) Smt. Kranti Devi), Village : Laharjori, P.O. : Karanjo, P.S. : Margomunda, Distt. : Deoghar, Jharkhand (2.03 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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29. **Akduara Stone Deposit of M/s Baba Basukinath Stone Mines (Partners : (i) Shri Nawinchandra Mandal (ii) Shri Amod Kumar Gupta (iii) Shri Deepak Kumar Gupta (iv) Shri Motilal Hansda), Village : Akduara, P.S. : Margomunda, Distt. : Deoghar, Jharkhand (0.81 Ha).**

(Proposal no.: SIA/JH/MIN/ 532804 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

Project Category: B2 – Application for Environmental Clearance

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Akduara Stone Deposit	
2	Lessee:	:	M/S Baba Basukinath Stone Mines Partner – (i) Sri Nawinchandra Mandal, (ii) Sri Amod Kumar Gupta, (Iii) Sri Deepak Kumar Gupta, (iv) Sri Motilal Hansda,	
3	Lease Address	:	Village – Akduara , Thana.- Margomunda, District – Deoghar, State - Jharkhand	
4	Lease Area	:	0.81 ha.	Acres- 2.01 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 60.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 10.225 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	89,200 cum	240840 tonnes
10	Mine Life	:	05 years	
11	Man power	:	23	
12	Water Requirement	:	7.43 ~ 7.50 KLD (Drinking: 0.23 KLD, Dust Suppression: 3.85 KLD, Plantation: 3.35 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Jainti River, Approx. 0.36 km towards East direction of mine site. Dilia Nadi, Approx. 4.60 km towards North direction of mine site.	
17	Nearest Habitation	:	approx. 150 meters North direction of mine site	
18	Nearest Railway Station	:	Madhupur junction station, approx 8.87 km towards NE direction..	
19	Nearest Airport	:	Deoghar Airport, approx. 29.79 km towards NNE direction	
20	Nearest Forest	:	PF, Approx. 1.95 km towards SW direction. PF, Approx. 2.05 km towards SSW direction.	

			PF, Approx. 4.09 km towards WSW direction. PF, Approx. 3.05 km towards NNE direction.
21	Road & Highways	:	NH - 114, Approx. 1.75 km towards E direction.

CO-ORDINATES

1	Latitude	:	From 24°12'18.19" N	To 24°12'23.09" N
2	Longitude	:	From 86°35'16.14" N	To 86°35'24.13" E

LAND DETAILS

Plot no.
803, 804, 805, 806, 817, 818 & 831

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 537/M, dated 25.06.2024.
2	CO	:	The CO, Margomunda vide letter no. 163/Ra., dated 17.05.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation (04 Houses) at a distance of 250 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 494/M, dated 28.04.2025 certified that 01 other mining lease area (5.16 Acre) exists within 500 meters radius from proposed project site and total area is 7.17 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1158, dated 14.06.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1047, dated 21.06.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 65, Sl. No. 20).
7	Gram Sabha	:	BDO, Margomunda vide letter no. 456/Vi. Dated 31.05.2023 informed that Gram Sabha conducted on 07.05.2023.

8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 101, dated 06.07.2024.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	0.81 Ha or 2.01 Acres	Life of Mine – 05 Years
3	Waste Generation	:	Total 3855.00 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	231 AMSL to 230 AMSL	
8	Ground Level Elevation	:	230 AMSL	
9	Ultimate Working Depth	:	213 AMSL (17 m bgl)	
10	Water Table	:	200-202 AMSL (30-28 m bgl)	
11	Topography of Mine	:	Area represents an undulating topography	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	100 litre/day	

Production Details

Year	Production of stone in cum	Production of stone in tonnes	Waste in cum	Bench AMSL
1st Year	14500.00	39150.00	1351.00	231-225
2nd Year	16500.00	44550.00	1467.00	231-225
3rd Year	17846.00	48184.20	1037.00	230-219
4th Year	15960.00	43092.00	-	255-219
5th Year	12090.00	32643.00	-	219-213
Total	**76896.00**	**207619.20**	**3855.00**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	0.0	0.46	0.46 (Entire area shall be left as water

			reservoir for rain water harvesting)
Road	0.0	Comes Under Quarry	Comes Under Quarry
Safety Zone (Plantation)	0.0	0.35 (Plantation)	0.35 (Plantation)
Total	0.0	0.0	0.81
Unused Area	0.81	0.81	0.0
Total Lease Area	**0.81**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.35 ha	875
2	Along Approach Road	:	350 m	700
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	8,37,500	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**10, 37,500**	**4,87,000**

Note: *1675 plants * 500 Rs (for each plants including hedges and fences) = 8.375 lakhs

Salary of Labor for haul road maintenance 1 labor*300 =300 per day

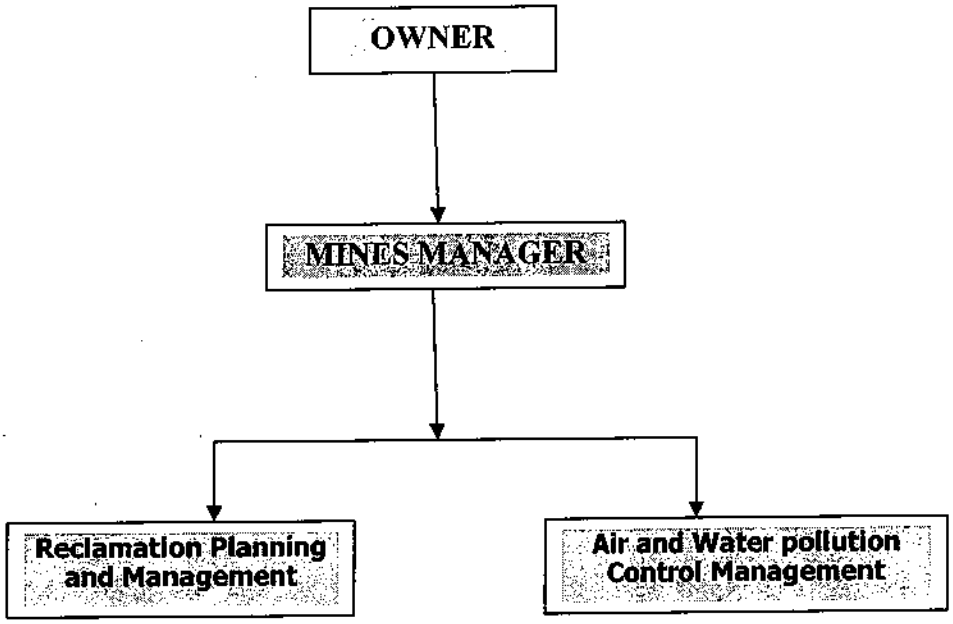
*300*300 = 90,000/- or 1,50,000/-*

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Pit layout has been shown in development plan and there is only 3855.00 cum waste shall be generate which will used in maintenance of mine road and village road , so there is no requirement of waste dumping Plan for this mining plan period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be

constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

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- Use of personal protective equipment like dust mask e.t.c shall be put in practice
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Risk Rating Scale

S. No.	Rating	Scale
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3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

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2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.

- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.

- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Akduara Stone Deposit of M/s Baba Basukinath Stone Mines (Partners : (i) Shri Nawinchandra Mandal (ii) Shri Amod Kumar Gupta (iii) Shri Deepak Kumar Gupta (iv) Shri Motilal Hansda), Village : Akduara, P.S. : Margomunda, Distt. : Deoghar, Jharkhand (0.81 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

30. Sugapahari Stone Deposit of M/s Gouri Stone Works (Partners : (i) Smt. Janaki Devi (ii) Shri Bikas Kumar Mandal (iii) Shri Sunil Kumar (iv) Shri Samiyl Murmu), Village : Sugapahari, P.S. Margomunda, Distt. : Deoghar, Jharkhand (2.27 Ha).

(Proposal no.: SIA/JH/MIN/ 535980 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 106204.0 cum/annum or 286750.80 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Sugapahari Stone Deposit	
2	Lessee:	:	Gouri Stone Works (Partners: 1. Smt. Janaki Devi, W/o Sri Kartik Mandal, 2. Sri Bikas Kumar Mandal, S/o Sri Hiralal Mandal, 3. Sri Sunil Kumar Saw, S/o Sri Dhondha Saw, 4. Sri Samiyl Murmu, S/o Sri Chhodelal Murmu)	
3	Lease Address	:	1. Smt. Janaki Devi, W/o Sri Kartik Mandal, Address – Village - Sugapahari, P.O. + Thana -Margomunda, District - Deoghar, Jharkhand. 2. Sri Bikas Kumar Mandal, S/o Sri Hiralal Mandal, Address – Village - Bhandaro, P.O. + Thana -Margomunda, District - Deoghar, Jharkhand 3. Sri Sunil Kumar Saw, S/o Sri Dhondha Saw, Address – Village - Kotwaldih, P.O. - Palmo, Thana-Giridih, District - Giridih, Jharkhand. 4. Sri Samiyl Murmu, S/o Sri Chhodelal Murmu Address – Village - Sugapahari, P.O. + Thana -Margomunda, District - Deoghar, Jharkhand.	
4	Lease Area	:	2.27 ha.	Acres- 5.62 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 80.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 13.30 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	530740 cum	1432998 tonnes
10	Mine Life	:	5.00 years	

11	Man power	:	23
12	Water Requirement	:	9.83 ~ 10.0 KLD (Drinking: 0.23 KLD, Dust Suppression: 5.08 KLD, Plantation: 4.52 KLD)
13	Water Source	:	Water will be taken from nearby village
14	DG Set / power	:	500 KVA
15	Crusher	:	No
16	Nearest Water Body	:	Dilai Nadi, approx. 3.40 km in NE direction.
17	Nearest Habitation	:	The nearest habitation is Sugapahari village approx. 0.36 km in SW direction of mine site.
18	Nearest Railway Station	:	Sugapahari Halt Railway Station, approx. 7.10 km towards NNW direction.
19	Nearest Airport	:	Deoghar Airport, approx. 27.50 km towards NE direction
20	Nearest Forest	:	Protected forest approx. 2.50 km towards North direction. Protected forest approx. 2.30 km towards SW direction.
21	Road & Highways	:	NH-114A, Approx. 6.80 km in North direction.

CO-ORDINATES

1	Latitude	:	From 24°12'53.22" N	To 24°13'00.58" N
2	Longitude	:	From 86°35'03.28" E	To 86°35'09.33" E

LAND DETAILS

Khata no.	Plot no.
23, 24 & 34	955 (P), 956 (P), 957, 958 (P), 877 & 878

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 609/M, dated 15.07.2024.
2	CO	:	The CO, Margomunda vide letter no. 68/Ra., dated 12.03.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II and also mentioned that the habitation (10 Houses) within 500 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 417/M, dated 12.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1246, dated 29.06.2024 certified that the proposed project site is outside Eco

			Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 116, dated 27.01.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 65, Sl. No. 22).
7	Gram Sabha	:	BDO, Margomunda vide letter no. 386/Vi. Dated 05.03.2024 informed that Gram Sabha conducted on 29.02.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Letter No. 67/G, dated 16.04.2025.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present In the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.27 Ha. or 5.62 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 4676 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	240 AMSL to 241 AMSL	
8	Ground Level Elevation	:	240 AMSL	
9	Ultimate Working Depth	:	210 AMSL	
10	Water Table	:	195 AMSL	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	100 kg/day	
13	Diesel/Fuel requirement	:	150 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Waste (cum)	Bench (AMSL)
1st	100800.00	272160.00	3820.00	240-234
2nd	103200.00	278640.00	856.00	234-228
3rd	106204.00	286750.80	-	228-222

4th	77808.00	210081.60	-	222-216
5th	35400.00	95580.00	-	216-210
Total	**423412.00**	**1143212.40**	**4676.00**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	-	1.71	1.71 (Entire area shall be converted into water reservoir)
Road	-	(comes under quarry)	(comes under quarry)
Safety Zone	-	0.56 (Plantation)	0.56 (Plantation)
Total	-	**2.27**	**2.27**
Unused Area	2.27	-	-
Total Lease Area	**2.27**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.56 ha	1400
2	Along Approach Road	:	380 m	760
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring	--	
	i) Air		14,000
	ii) Water		8,000
	iii) Soil		8,000
	iv) Noise		7,000
3	Plantation	11,30,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**13,30,000**	**4,87,000**

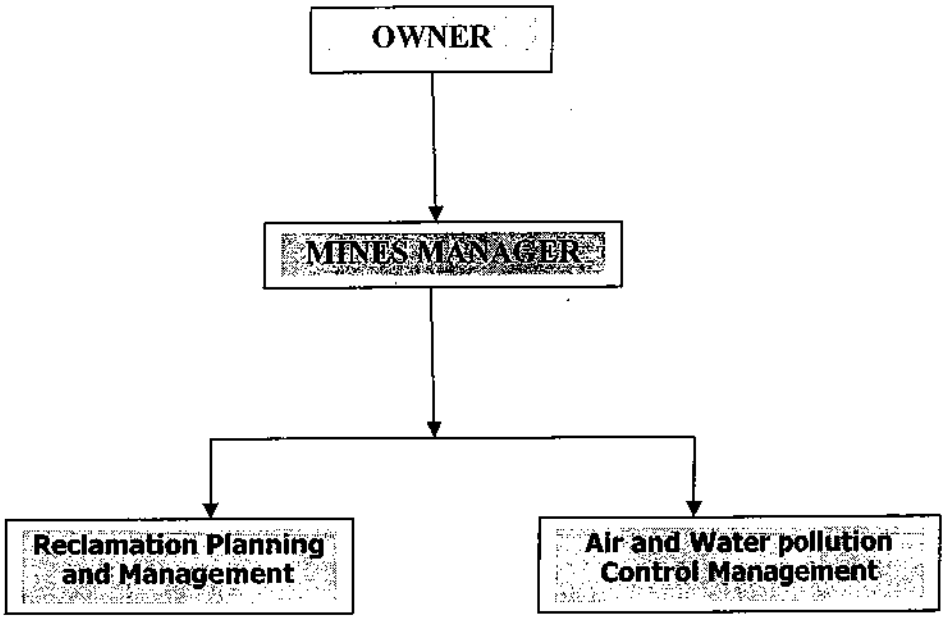
Note: *2260 plants * 500 Rs (for each plants including hedges and fences) = 11,30,000 /-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300*300 = 90000/- or 150000/-
**** 5.0 lakh per kilometer (500000 * 0.38 km haul road = 1,90,000/- or 2,00,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 4676 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1	5	4	3	2	1

1000

(Catastrophic)					
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

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- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

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Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

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Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
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Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
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h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Sugapahari Stone Deposit of M/s Gouri Stone Works (Partners : (i) Smt. Janaki Devi (ii) Shri Bikas Kumar Mandal (iii) Shri Sunil Kumar (iv) Shri Samiyl Murmu), Village : Sugapahari, P.S. Margomunda, Distt. : Deoghar, Jharkhand (2.27 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines

owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

31. Dulauri Stone Deposit of M/s Jai Mata Di Traders (Prop. : Shri Sanjay Kumar Suman), Village : Dulauri, Anchal : Deori, Distt. : Giridih, Jharkhand (1.448 Ha).

(Proposal no.: SIA/JH/MIN/ 533274 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

Proposed Capacity- 34945 cum/year or 94351 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Dulauri Stone Deposit	
2	Lessee:	:	M/s Jai Mata Di Traders Proprietor-Sanjay Kumar Suman S/O-Sri Ramanand Ray, At-New Barganda, P.O + P.S- Giridih District-Giridih, Jharkhand	
3	Lease Address	:	Village –Dulauri, District – Giridih, Jharkhand	
4	Lease Area	:	1.448 Ha	Acres- 3.58 Acres
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 70 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.95 lakhs	Recurring: Rs. 4.87 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 345951.85 cum	Tonnes: 934070 tons
10	Mine Life	:	10 years	
11	Man power	:	15	
12	Water Requirement	:	9.50 KLD (Drinking: 0.15 KLD, Dust Suppression: 4.98 KLD, Plantation: 4.38 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Garhi River, approx. 8.0 km towards Western direction	
17	Nearest Habitation	:	Approx. 0.65 km	
18	Nearest Rail Station	:	Duriatanr Halt Railway station, approx. 19.0 km towards SW direction	
19	Nearest Air Port	:	Deoghar Airport, approx. 47.0 km towards East direction	
20	Nearest Forest	:	Protected Forest, Approx. 2.20 km. in South direction of mine site. Protected Forest, Approx. 2.50 km. in SE direction of mine site.	
21	Road & Highways	:	NH- 333C - Approx. 5.0 km in ESE direction.	

CO-ORDINATES

1	Latitude	From N 24°30' 23.150"	To N 24°30' 27.911"
2	Longitude	From E 86°14' 51.073"	To E 86°14' 59.453"

LAND DETAILS

Khata No.	Plot No.
8	111(P)
7	78,80,69,70(p)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 251/M, dated 04.03.2024.
2	CO	:	The CO, Deori vide letter no. 552, dated 22.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 931/M, dated 24.10.2024 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2510, dated 16.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Koderma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 3425, dated 30.09.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 84, Sl. no. 15).
7	Gram Sabha	:	BDO, Deori vide letter no. 2219, dated 12.09.2023 informed that Gram Sabha conducted on 11.09.2023.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology, District Geological Office, Koderma vide Memo No. 85, dated 03.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi Mechanized Method	
2	Quarry Area	:	1.448 Ha or 3.58 Acres	Life of Mine 10 Years
3	Waste Generation	:	35416 cum	
4	Stripping Ratio	:	1: 0.21	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m	
7	Elevation of Mine	:	385 AMSL to 392 AMSL	
8	Ground Level Elevation	:	385 AMSL	
9	Ultimate Working	:	Up to 360 AMSL (15 mgbl)	

	Depth		
10	Water Table	:	340 AMSL (45 mbgl)
11	Topography of Mine	:	The area represents undulating topography
12	Explosive Requirement	:	110 kg/day
13	Diesel/Fuel requirement	:	140 litre/day

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Waste (cum) in plan period	Bench AMSL
1st	32201	86943	14159	392-384
2nd	32779	88503	15861	384-378
3rd	34945	90062	1756	384-378
4th	33356	92402	1801	378-372
5th	34223	94351	1839	372-366
Total	167504	452261	35416	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan Period (Ha)	At the Conceptual (Ha)
Excavation	0.0	0.589	0.932 (0.165 ha area shall be Backfilled, 0.768 ha converted in to water reservoir.)
Waste Dump	0.0	0.331	Nil (waste dump to be removed and backfilled)
Road	0.0	0.002	0.0
Infrastructure	0.0	0.0	0.0
Plantation(S.Z.)	0.0	0.516	0.516
Total	0.0	1.438	1.448
Unused Area	1.448	0.010	0.00
Total Lease Area	**1.448**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.516 ha	1290
2	Along Approach Road	:	400 m	800
3	No. of plants distributed with	:	--	100

	consultation local authorities /village Panchayat			

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	10,95,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		12,95,000	4,87,000

Note: *2190 plants * 500 Rs (for each plants including hedges and fences)= 10.95 lakh

Salary of Labor for haul road maintenance 1 labor*300 =300 per day

300* 300 = 90,000/- or 1,50,000/- (including maintenance)

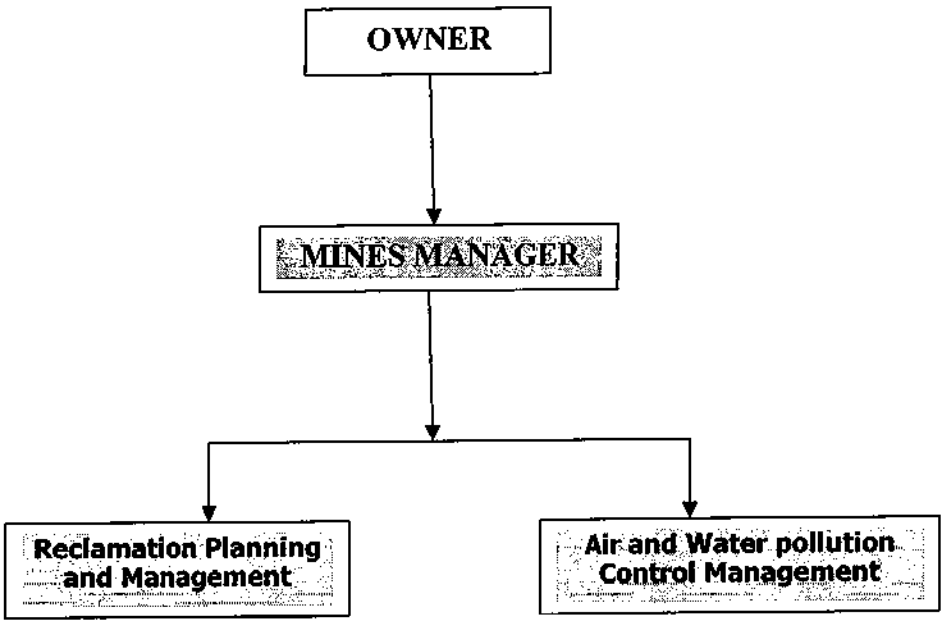
**** 5.0 lakh per kilometer (5,00,000* 0.400 km haul road = 2,00,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 35416 cum waste will be generated during the plan period. It will be utilized for approach & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1	5	**4**	**3**	**2**	**1**

(Catastrophic)					
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.

- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

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- Time pressure
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k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Dulauri Stone Deposit of M/s Jai Mata Di Traders (Prop. : Shri Sanjay Kumar Suman), Village : Dulauri, Anchal : Deori, Distt. : Giridih, Jharkhand (1.448 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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32. Lambijor Stone Deposit of M/s Om Sai Minerals (Partner : Shri Kaushal Kumar & Shri Binod Kumar), Village : Lambijor, Thana : Deori, Distt. : Giridih, Jharkhand (2.027 Ha).

(Proposal no.: SIA/JH/MIN/ 533650 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

Proposed Capacity- 21315 cum/year or 57551 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Lambijor Stone Deposit	
2	Lessee:	:	M/s Om Sai Minerals Partner –Sri Kaushal Kumar & Sri Binod Kumar At Village- Chandni Chowk Rajdhanwar, P.O.+ P.S.- Rajdhanwar, Dist.- Giridih, State-Jharkhand	
3	Lease Address	:	Mouza – Lambijor, Thana- Deori, District – Giridih, State - Jharkhand	
4	Lease Area	:	2.027 Ha	Acres- 5.01 Acres
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90 Lakhs	
7	EMP Budget	:	Capital: Rs. 21.01 lakhs	Recurring: Rs. 4.87 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 211928 cum	Tonnes: 572206 tons
10	Mine Life	:	10 years	
11	Man power	:	26	
12	Water Requirement	:	15.5 KLD (Drinking: 0.26 KLD, Dust Suppression: 7.99 KLD, Plantation: 7.26 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Usri River, approx. 13.0 km towards SW direction	
17	Nearest Habitation	:	Approx. 1.0 km	
18	Nearest Rail Station	:	Jamua Railway station, approx. 22.72 km towards SSW direction.	
19	Nearest Air Port	:	Giridih Airport, approx. 35.82 km towards S direction	
20	Nearest Forest	:	Protected Forest, Approx. 4.5 km. in South direction of mine site.	
21	Road & Highways	:	NH- 333C - Approx. 3.15 km in SE direction.	

CO-ORDINATES

1	Latitude	From 24° 31' 32.73 N	To N 24° 31' 38.21" N
2	Longitude	From – 86° 16' 52.89 E	To E 86° 16' 57.61" E

LAND DETAILS

Khata no.	Plot no.
03	107 (P), 112, 113 (P), 114 & 115

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 716/M, dated 31.07.2024.
2	CO	:	The CO, Deori, Giridih vide letter no. 74, dated 05.02.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 85/M, dated 06.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 336, dated 22.02.2024 certified that the proposed project site is outside Eco Sensitive Zone of Koderma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 291, dated 02.02.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 63, Sl. no. 85).
7	Gram Sabha	:	BDO, Deori, Giridih vide letter no. 817, dated 13.03.2024 informed that Gram Sabha conducted on 03.03.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology, District Geological Office, Koderma vide Memo No. 16, dated 25.01.2025.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi Mechanized Method	
2	Quarry Area	:	2.027 Ha. or 5.01 Acre	Life of Mine 10 Years
3	Waste Generation	:	3388 cum	
4	Stripping Ratio	:	1: 0.03	
5	Working Days	:	300	
6	Benches: size & No	:	3m x 3m	
7	Elevation of Mine	:	300 AMSL to 304 AMSL	
8	Ground Level Elevation	:	300 AMSL	
9	Ultimate Working Depth	:	Up to 279 AMSL (21 mgbl)	

10	Water Table	:	260 AMSL (40 mbgl)
11	Topography of Mine	:	The area represents undulating topography
12	Explosive Requirement	:	150 kg/day
13	Diesel/Fuel requirement	:	200 litre/day

Production Details

Year	Production of stone in tonnes	Production of stone in cum	Production of soil in cum	Intercalated waste in cum	Total waste In cum	Bench AMSL
1st	57202	21186	1626	0	1626	300-297
2nd	57394	21257	0	0	0	297-294
3rd	57456	21280	952	0	952	294-291
4th	57380	21252	810	0	810	291-288
5th	57551	21315	0	0	0	288-285
Total	286983	106290	3388	0	3388	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	-	0.75	1.107 (entire area will converted resiourvior)
Dump	-	0.06	-
Garlank drain	-	0.016	-
Parapet wall	-	0.014	-
Road	0.01	-	-
Safety Zone (Plantation)	-	0.92 (Plantation)	0.92 (Plantation)
Total area in use	0.01	1.76	2.027
Balance Unused Area	2.017	0.267	0.00
Total Lease Area	**2.027**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.92 ha	2300
2	Along Approach Road	:	566 m	1132
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	18,16,000	1,00,000
4	Construction and maintenance of haul road	2,85,000	1,50,000
TOTAL		**21,01,000**	**4,87,000**

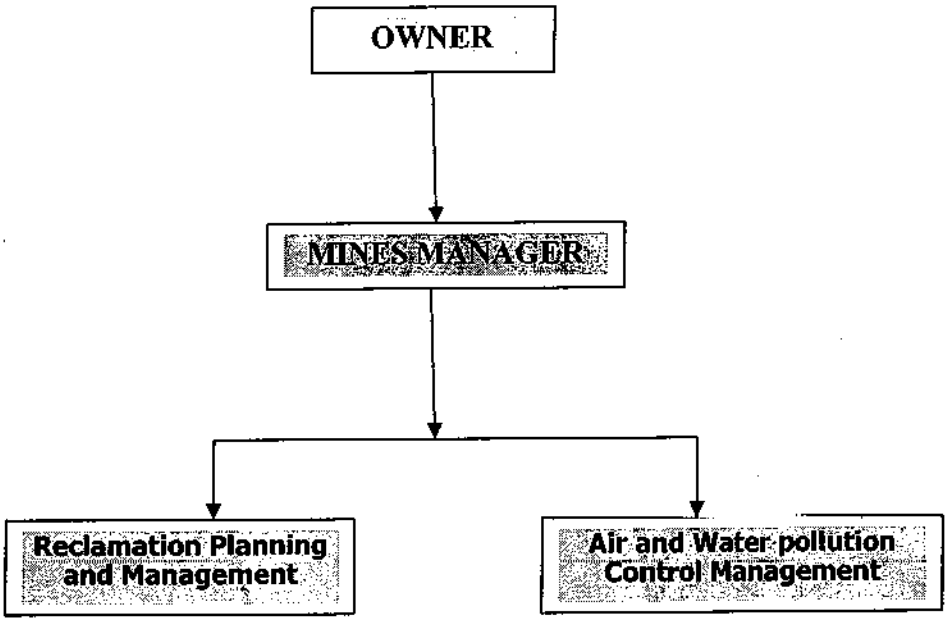
Note: *3632 plants * 500 Rs (for each plants including hedges and fences) = Rs. 18,16,000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 3388 cum waste will be generated during the plan period. It will be utilized for approach & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1	5	4	3	2	1

(Catastrophic)					
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.

- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads

- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard

d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Lambijor Stone Deposit of M/s Om Sai Minerals (Partner : Shri Kaushal Kumar & Shri Binod Kumar), Village : Lambijor, Thana : Deori, Distt. : Giridih, Jharkhand (2.027 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged

photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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33. Jhalakdiha Stone Deposit of M/s M.P. Minerals (Partner : (i) Shri Raj Kishore Hansda (ii) Shri Virulal Chaude (iii) Shri Manohar Pathak), Village : Jhalakdiha, Anchal : Giridih Sadar, Distt. : Giridih, Jharkhand (1.94 Ha).

(Proposal no.: SIA/JH/MIN/ 534991 /2025)

A complaint has been received vide e-mail dated 08.05.2025 from Sanojhar123@yahoo.com alleging that there are various irregularities w.r.t. siting criteria of the mine lease and the Gram Sabha conducted.

Accordingly, the Member Secretary, SEAC to write a letter to Deputy Commissioner, Giridih alongwith the copy of the complaint received to verify the authenticity of the contents of the complaints.

Accordingly, the project will be taken up for consideration after getting report of verification from the Deputy Commissioner.

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34. Kharagdiha Stone Deposit of M/s Sangam Enterprises (Partner : Shri Mahendra Saw & Md. Shahid Raza), Village : Kharagdiha, Anchal : Jamua, Distt. : Giridih, Jharkhand (0.959 Ha).

(Proposal no.: SIA/JH/MIN/ 535464 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 16680.00 cum/annum or 45036.00 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Kharagdiha Stone Deposit	
2	Lessee:	:	M/s Sangam Enterprises Partner-1 Mahendra Saw, S/O Late Ram Chandra Saw, At Harla, P.S.-Jamua Dist Giridih, Jharkhand. Partner-2- Md Shahid Raza, S/O – Md. Muslim, Village- Kharagdiha, P.S.-Jamua Dist- Giridih, Jharkhand.	
3	Lease Address	:	Village – Kharagdiha, Anchal- Jamua , District - Giridih, State – Jharkhand	
4	Lease Area	:	0.959 ha..	Acres- 2.37 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 50.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 14.26 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	78,720 cum	212544.00 Tonnes
10	Mine Life	:	4.71 or 5year.	
11	Man power	:	12	
12	Water Requirement	:	10.08 ~ 10.10 KLD (Drinking: 0.12 KLD, Dust Suppression: 5.50KLD, Plantation: 4.46 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Usri Nadi, Approx. 3.54 km. in North direction of mine site.	
17	Nearest Habitation	:	Chagalmunda, ~~Approx. 0.34~~ km towards NE direction	
18	Nearest Railway Station	:	Jamua Railway station, approx. 7.00 km towards NNE direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 54.47 km towards East direction	
20	Nearest Forest	:	Protected Forest, Approx. 3.0 km. in East direction of mine site.	
21	Road & Highways	:	SH- 13, Approx 5.47 km towards SW direction.	

CO-ORDINATES

1	Latitude	:	From 24°24' 42.676" N	To 24°24' 47.170" N
2	Longitude	:	From 86°10' 49.667" E	To 86°10' 45.341" E

LAND DETAILS

Plot no.
1975 (P), 1977 (P), 1978, 1979 & 1973 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 717/M, dated 31.07.2024.
2	CO	:	The CO, Jamua, Giridih vide letter no. 1597, dated 11.12.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 147/M, dated 24.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 59, dated 13.01.2024 certified that the proposed project site is outside Eco Sensitive Zone of Koderma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih West Forest Division vide letter no. 2124, dated 15.12.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 83, Sl. no. 12).
7	Gram Sabha	:	BDO, Jamua, Giridih vide letter no. 300, dated 28.02.2024 informed that Gram Sabha conducted on 31.01.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology, District Geological Office, Koderma vide Letter No. 17, dated 25.01.2025.
9	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	0.959 ha or 2.37Acre	Life of Mine –4.71 or 5 years
3	Waste Generation	:	Total 5360.00 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.06	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	354AMSL to 356AMSL	
8	Ground Level Elevation	:	354AMSL	
9	Ultimate Working Depth	:	332AMSL (22m BGL)	
10	Water Table	:	324 AMSL (30 m BGL)	
11	Topography of Mine	:	Undulating hillocks	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	100 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in Cum	Bench Bottom mRL
1st Year	15760.00	42552.00	2040.00	356-344
2nd Year	16680.00	45036.00	1200.00	356-338
3rd Year	15760.00	42552.00	520.00	356-338
4th Year	15800.00	42660.00	760.00	356-338
5th Year	14720.00	39744.00	840.00	356-338
Total	78720.00	212544.00	5360.00	-

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Excavation	0.0	0.598	0.598(Entire area shall be left as water reservoir for rain water harvesting)

Waste Dump	0.0	Nil(within quarry)	Nil(within quarry)
Mine Road	0.0	0.004	0.004
Infrastructure	0.0	Nil(within quarry)	Nil(within quarry)
Safety Zone Plantation	0.0	0.357 (Within safety zone)	0.357 (Within safety zone)
Total Area	**0.0**	**0.959**	**0.959**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.357 ha	893
2	Along Approach Road	:	620 m	1240
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	11,16,500	1,00,000
4	Construction and maintenance of haul road	3,10,000	1,50,000

1037

TOTAL	14,26,500	4,87,000

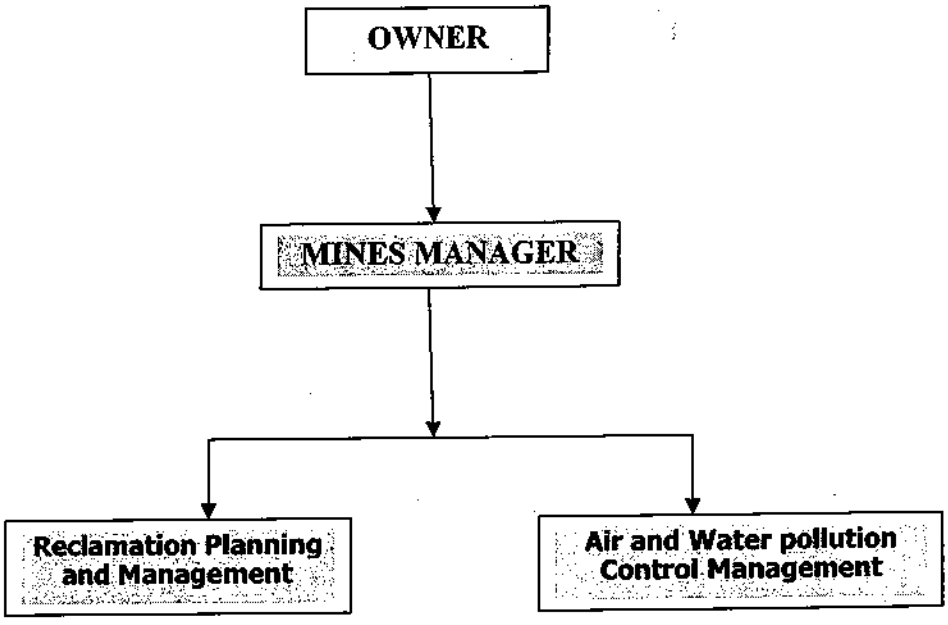
Note: *2,233 plants * 500 Rs (for each plants including hedges and fences) = Rs. 11,16,500/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/- (including maintenance)
**** 5.0 lakh per kilometer (500000 * 0.62 km haul road = 3,10,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 53600 cum waste during the plan period, which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.

L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement

- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kharagdiha Stone Deposit of M/s Sangam Enterprises (Partner : Shri Mahendra Saw & Md. Shahid Raza), Village : Kharagdiha, Anchal : Jamua, Distt. : Giridih, Jharkhand (0.959 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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35. **Mednisare Stone Deposit of M/s Jharkhand Stone Works (Partner : Md. Imran Ali & Md. Mustaq), Mouza : Mednisare, Thana : Gandey, Distt. : Giridih, Jharkhand (0.77 Ha).**

(Proposal no.: SIA/JH/MIN/ 533897 /2025)

A complaint has been received vide letter dated 20.04.2025 from Shri Bablu Kumar Murmu, S/o Shri Sahebbram Murmu, Sobtajpur, P.O. : Chapuadih, Giridih – 815312 alleging that there are various irregularities w.r.t. siting criteria of the mine lease and the Gram Sabha conducted.

Accordingly, the Member Secretary, SEAC to write a letter to Deputy Commissioner, Giridih alongwith the copy of the complaint received to verify the authenticity of the contents of the complaints.

Accordingly, the project will be taken up for consideration after getting report of verification from the Deputy Commissioner.

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36. **Balutuda Stone Deposit of M/s Gajanan (Prop. : Shri Rajkumar Ojha), Mouza : Balutuda, Circle : Dumari, Distt. : Giridih, Jharkhand (2.49 Ha).**

(Proposal no.: SIA/JH/MIN/ 535942 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: **Proposed Capacity-**

Stone	80579 cum	225621.20TPA

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Balutuda Stone Deposit
2	Lessee:	:	M/s Gajanan Proprietor: Shri Rajkumar Ojha S/o Late. Hari Shankar Ojha. Vill + P.O- Isri Bazar, P.S.- Nimiyaghat, Atki Dist- Giridih, District-

			Jharkhand.	
3	Lease Address	:	Mouza– Balutuda, Circle- Dumri, District – Giridih, State - Jharkhand	
4	Lease Area	:	2.49 ha.	Acres- 6.145 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 15.75 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	Stone 2253099.8 Tonnes	
10	Mine Life	:	10 years	
11	Man power	:	25	
12	Water Requirement	:	11.65 ~ 12.0 KLD (Drinking: 0.25 KLD, Dust Suppression: 5.9 KLD, Plantation: 5.5 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Jamuniya Nadi, Approx. 1.83 km towards SW direction of mine site. Paraiya Nadi, Approx. 3.03 km towards NNE direction of mine site.	
17	Nearest Habitation	:	Isri village approx. 5.48 km NW direction of mine site.	
18	Nearest Railway Station	:	Nimiaghat Railway station, approx. 1.90km towards SSE direction	
19	Nearest Airport	:	Deoghar Airport, approx. 84.79 km towards NE direction	
20	Nearest Forest	:	Parasnath Protected Forest, Approx. 2.20 km towards ENE direction of mine site. Protected Forest, Approx 4.86 km towards NNWdirection of mine site.	
21	Road & Highways	:	NH-19, Approx. 0.77 km. in NNE direction.	

CO-ORDINATES

1	Latitude	:	From 23° 56' 48.338" N	To 23° 56' 54.510" N
2	Longitude	:	From 86° 4' 6.220"E	To 86° 4' 17.793" E

LAND DETAILS

Khata no.	Plot no.
02, 60, 77 & 91	1189(P),1188(P),1185, 1186, 1182, 1181, 1180, 1179, 1178, 1176, 1173, 1174, 1175 and 1170

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 709/M, dated 30.07.2024.
2	CO	:	The CO, Dumri (Giridih) vide letter no. 196, dated 16.02.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 53/M, dated 27.01.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 368, dated 28.02.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 310, dated 10.02.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 81, Sl. no. 07).
7	Gram Sabha	:	BDO, Dumri (Giridih) vide letter no. 247, dated 09.02.2024 informed that Gram Sabha conducted on 06.02.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology, District Geological Office, Bokaro vide Memo No. 89, dated 26.04.2025.
9	Qualified Person	:	Shri Tapan Kumar Chkaravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast mechanized method.	
2	Quarry Area	:	2.49 Ha. or 6.145Acre	Life of Mine –10 years
3	Waste Generation	:	Total 21171 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	278 AMSL to 274 AMSL	
8	Ground Level Elevation	:	224 AMSL	
9	Ultimate Working Depth	:	254 AMSL (30m BGL)	
10	Water Table	:	224-229AMSL (45-50m BGL)	

11	Topography of Mine	:	Almost flat
12	Explosive Requirement	:	110 kg/day
13	Diesel/Fuel requirement	:	100 litre/day

Production Details

Year	Production of Stone		Production of Morrum		Intercalated Waste	Bench RL	
	In cum	In Tonnes	In cum	In tonnes	In cum	Stone	Morrum
1st	80579	225621.20	9830	19660.00	4241	274-272	274-273.5
2nd	80456	225275.40	6750	13500	4235	274-272	274-273.5
3rd	80370	225036.00	0	0	4230	272-266	-
4th	80541	225514.80	0	0	4239	266-260	-
5th	80285	224796.60	0	0	4226	260-254	-
Total	**402231**	**1126244.00**	**16580**	**33160.00**	**21171**	-	-

Land Use

Pattern of Utilization	Existing Land Use (Ha.)	At the end of Plan Period (Ha.)	At Conceptual Period (Ha.)
Excavation	NIL	0.91	1.67(left as water reservoir for rain water harvesting)
Proposed Crusher	NIL	0.05	NIL
(Safety zone)	NIL	0.82 Plantation	0.82 Plantation
Unused Area	2.49	0.71	
Total	**2.49**	**2.49**	**2.49**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.82 ha	2050
2	Along Approach Road	:	300 m	600
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring	--	
	i) Air		14,000
	ii) Water		8,000
	iii) Soil		8,000
	iv) Noise		7,000
3	Plantation	13,75,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**15,75,000**	**4,87,000**

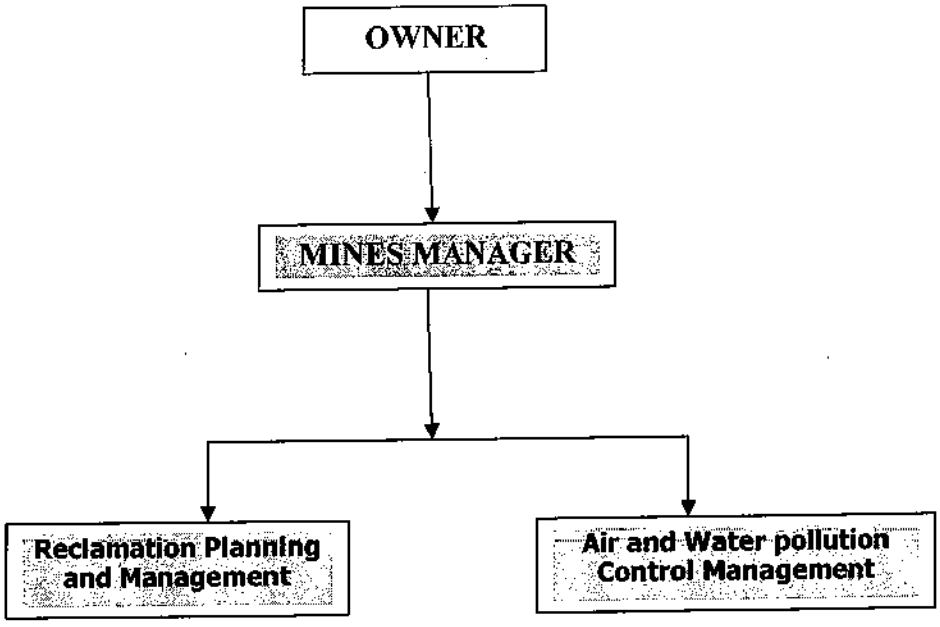
Note: * 2750 plants * 500 Rs (for each plants including hedges and fences) = 13,75,000
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

It can be seen from the development programme that there will be generation of total 21171 cum waste shall be generated during the plan period. Removal of waste material shall be utilized for making of approach haul road, maintenance the village road and for use of plantation.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.

- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1

C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench

- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.

- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the

factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.

c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Balutuda Stone Deposit of M/s Gajanan (Prop. : Shri Rajkumar Ojha), Mouza : Balutuda, Circle : Dumari, Distt. : Giridih, Jharkhand (2.49 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged

photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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37. Chagalmunda Stone Deposit of M/s Ganpati Stone Deposit Mines (Partner : Shri Vishal Kumar & Shri Sharwan Yadav), Mouza : Chagalmunda, Anchal : Tisri, Distt. : Giridih, Jharkhand (1.43 Ha).

(Proposal no.: SIA/JH/MIN/ 535893 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 22292 cum/annum or 60188 TPA of Stone.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Chagalmunda Stone Deposit
2	Lessee:	:	M/s Ganpati Stone Deposit Mines Partner-1: Sri Vishal Kumar P.O.+ P.S.-Domchanch, Dist- Giridih, State- Jharkhand, Pin Code-

			815312 Partner-2: Sri Sharwan Yadav At-Chhaknadih, P.O.- Kharagdiha, P.S.- Jamua Dist- Giridih, State- Jharkhand, Pin Code-815312	
3	Lease Address	:	Mouza – Chagalmunda, Anchal- Tisri, District – Giridih, State- Jharkhand	
4	Lease Area	:	1.43 ha.	Acres- 3.54 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 70.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.50 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	222938 cum	601933 tonnes
10	Mine Life	:	5 years	
11	Man power	:	29	
12	Water Requirement	:	9.29 ~ 9.30 KLD (Drinking: 0.29 KLD, Dust Suppression: 4.80KLD, Plantation: 4.20 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Kunda Nadi, Approx. 5.0 km towards SW direction of mine site.	
17	Nearest Habitation	:	Tisri village approx. 0.98 km N direction of mine site.	
18	Nearest Railway Station	:	Duriatanr Halt Railway Station, approx. 16.80 km towards South direction.	
19	Nearest Airport	:	Dhanbad Airport, Giridih approx. 87.80 km towards SSE direction	
20	Nearest Forest	:	Dense jungle mainly sal Approx. 2.0 km towards West direction of mine site	
21	Road & Highways	:	SH-13, Approx 11.37 km towards South direction.	

CO-ORDINATES

1	Latitude	:	From 24°33'27.20"N	To 24°33'32.96" N
2	Longitude	:	From 86°04'34.25" E	To 86° 04'29.47" E

LAND DETAILS

Khata no.	Plot no.
05, 06, 07 & 18	298, 294, 295, 296, 290 (P), 289, 41 (P) & 299

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 220/M, dated 24.03.2025.
2	CO	:	The CO, Tisri Giridih vide letter no. 36, dated 20.01.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 372/M, dated 11.04.2025 certified that 01 other mining lease area (4.05 Acre) exists within 500 meters radius from proposed project site and total area is 7.59 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2048, dated 06.09.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 4240, dated 28.11.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 61, Sl. no. 68).
7	Gram Sabha	:	BDO, Tisri vide letter no. 08, dated 04.01.2025 informed that Gram Sabha conducted on 28.12.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology, District Geological Office, Bokaro vide Memo No. 88, dated 26.04.2025.
9	Qualified Person	:	Shri Tapan Kumar Chkaravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.	
2	Quarry Area	:	1.43 Ha. or 3.54 Acre	Life of Mine – 5 Year
3	Waste Generation	:	Total 8340 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.07	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	326AMSL to 320 AMSL	
8	Ground Level Elevation	:	320 AMSL	
9	Ultimate Working Depth	:	296AMSL (24 m bgl)	

10	Water Table	:	290AMSL (30m bgl)
11	Topography of Mine	:	Area undulating with hard rocks.
12	Explosive Requirement	:	110 kg/day
13	Diesel/Fuel requirement	:	130 litre/day

Production Details

Year	Production of stone in cum	Production of stone in Tonnes	Total Waste in cum	Bench (AMSL)
1st	22264	60113	2948	324-320
2nd	22258	60097	1012	324-314
3rd	22292	60188	0	320-308
4th	22291	60186	4380	320-314
5th	22287	60175	0	320-314
Total	111392	300759	8340	-

Land Use

Pattern of Utilization	Existing Land Use (Ha.)	During Plan Period (Ha.)	Conceptual stage (after life of mine) (in Ha.)
Quarry	Nil	0.78	0.95 (Entire area shall be left as water reservoir for Rain Water Harvesting)
Road	0.01	-	-
Dump with Parapet wall & Garland drain	Nil	0.04	Nil
Saftey zone	-	0.48 (Plantation)	0.48 (Plantation)
Total Area	**0.01**	**1.30**	**1.43**
Balanced Area	**1.42**	**0.13**	**0.0**
Total	**1.43**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.48 ha	1200

2	Along Approach Road	:	400 m	800
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	10,50,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**12,50,000**	**4,87,000**

Note: *2100 plants * 500 Rs (for each plants including hedges and fences) = Rs. 10.50 lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/-or 1,50,000-(including maintenance)
**** 5 lakh per kilometer (500000 * 0.40 km haul road = 2,00,000/)***

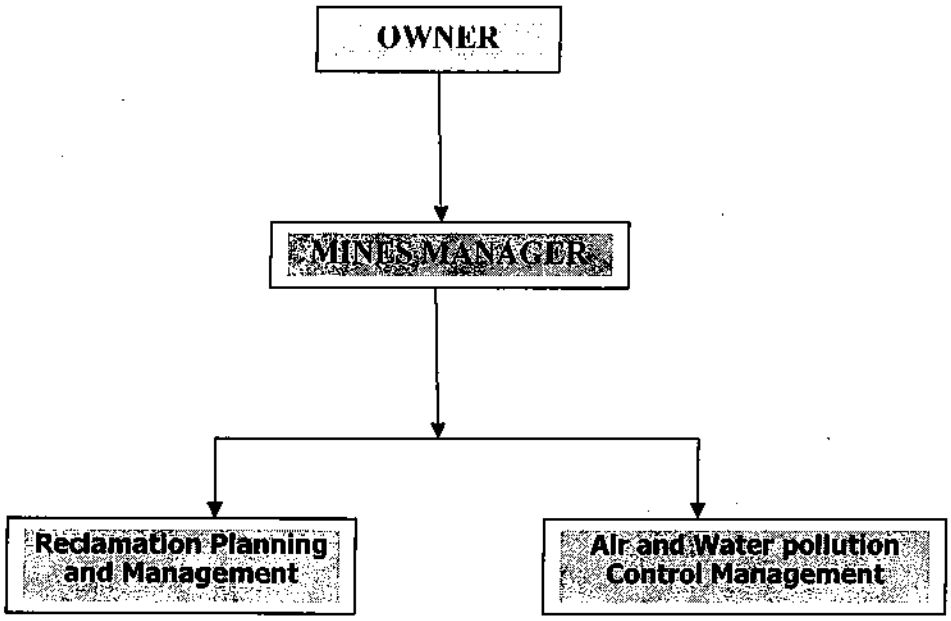
Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly

3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

From the development plan it is clear that total 8340 Cu.m of O.B. shall be generated which shall be store at dump site in South-East Portion of lease area and shall be use for haul road dressing, plantation.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.

- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.

C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock	Occasional	Major	6

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		(Bodily Injury)			
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the

face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.
While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.
The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.
The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.

- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Chagalmunda Stone Deposit of M/s Ganpati Stone Deposit Mines (Partner : Shri Vishal Kumar & Shri Sharwan Yadav), Mouza : Chagalmunda, Anchal : Tisri, Distt. : Giridih, Jharkhand (1.43 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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38. Surjudih Stone Deposit of M/s Satyam Stone Mining (Partner : Shri Ashish Kumar Verma & Shri Pradeep Mishra), Mouza : Surjudih, Anchal : Dumri, Distt. : Giridih, Jharkhand (1.841 Ha).

(Proposal no.: SIA/JH/MIN/ 535987 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 36720 cum/annum or 99145 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Surjudih Stone Deposit	
2	Lessee:	:	M/s Satyam Stone Mining APPLICANT Partner 1-Sri Ashish Kumar Verma, Partner 2- Sri Pradeep Mishra	
3	Lessee Address	:	M/s Satyam Stone Mining APPLICANT Partner 1-Sri Ashish Kumar Verma, S/o Sri Narayan Mahto At Gram-Baghra, Thana-Bengabad, Dist.-Giridih, Jharkhand & Partner 2- Sri Pradeep Mishra S/o Sri Gobind Mishra At Sakin Pathaldiha, Thana-Bagodar, Dist.- Giridih, Jharkhand	
4	Lease Area	:	1.841 ha.	Acres- 4.55 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 10.415 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	362437.03 cum	978580 tonnes
10	Mine Life	:	10.00 years	
11	Man power	:	19	
12	Water Requirement	:	6.91 ~7.00 KLD (Drinking: 0.19 KLD, Dust Suppression: 3.36 KLD, Plantation: 3.36 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	300 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Jamunia River, approx. 3.08 km in SW direction.	
17	Nearest Habitation	:	Ratidih village ~~approx. 0.82 km~~ SW direction of mine site.	
18	Nearest Railway	:	Nimiaghat Railway Station, approx. 1.62 km towards West direction.	

	Station		
19	Nearest Airport	:	Deoghar Airport, approx. 84.50 km towards NE direction.
20	Nearest Forest	:	Parasnath Hill, Approx. 1.61 km towards NE direction of mine site.
21	Road & Highways	:	NH-A1, Approx. 1.41 km towards NE direction.

CO-ORDINATES

1	Latitude	:	From 23° 55' 49.7161"	To 23° 55' 54.9846"
2	Longitude	:	From 86° 05' 32.6162"	To 86° 05' 41.2989"

LAND DETAILS

Khata no.	Plot no.
07, 12, 23 & 26	196, 204 (P), 206, 207, 208, 210 (P) & 211

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 748/M, dated 05.08.2024.
2	CO	:	The CO, Dumri (Giridih) vide letter no. 1047, dated 23.12.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 441/M, dated 29.04.2025 certified that 02 other mining lease area (4.44 Acre & 2.94 Acre) exists within 500 meters radius from proposed project site and total area is 11.93 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2588, dated 20.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 1545, dated 27.04.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 58, Sl. no. 43).
7	Gram Sabha	:	BDO, Dumri vide letter no. 454, dated 06.03.2024 informed that Gram Sabha conducted on 28.02.2024.

8	Mine Plan Approval	:	Approved by The Assistant Director, Geology, District Geological Office, Bokaro vide Memo No. 84, dated 24.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method.	
2	Quarry Area	:	1.841 Ha. or 4.55 Acres	Life of Mine – 5.00 years
3	Waste Generation	:	Total 30472 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.17	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	292 AMSL to 295 AMSL	
8	Ground Level Elevation	:	292 AMSL	
9	Ultimate Working Depth	:	265 AMSL (27mbgl)	
10	Water Table	:	247-250 AMSL (45-42 mbgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of stone in cum	Production of stone in Tonnes	Total Waste in cum	Bench (AMSL)
1st	33319	89962	18845	295-289
2nd	34628	93494	1823	289-283
3rd	35089	94741	1847	283-277
4th	35628	96195	1875	277-271
5th	36720	99145	6083	271-265
Total	**175384**	**473537**	**30472**	-

Land Use

Land Utilization	Existing Landuse (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	NIL	0.823	1.288 (0.166 ha area shall be backfilled, 1.122 ha area shall be developed as water

			reservoir)
Waste Dump	NIL	0.295	Nil (waste dump to be removed and backfilled)
Road	NIL	0.008	0.00
Safety Zone	NIL	0.553 Plantation	0.553 Plantation
Total	**0.000**	**1.679**	**1.841**
Unused Area	**1.841**	**0.162**	**0.0**
Total Lease Area	**1.841**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.553 ha	1383
2	Along Approach Road	:	100m	200
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring	--	
	i) Air		14,000
	ii) Water		8,000
	iii) Soil		8,000

	iv) Noise		7,000
3	Plantation	8,41,500	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**10,41,500**	**4,87,000**

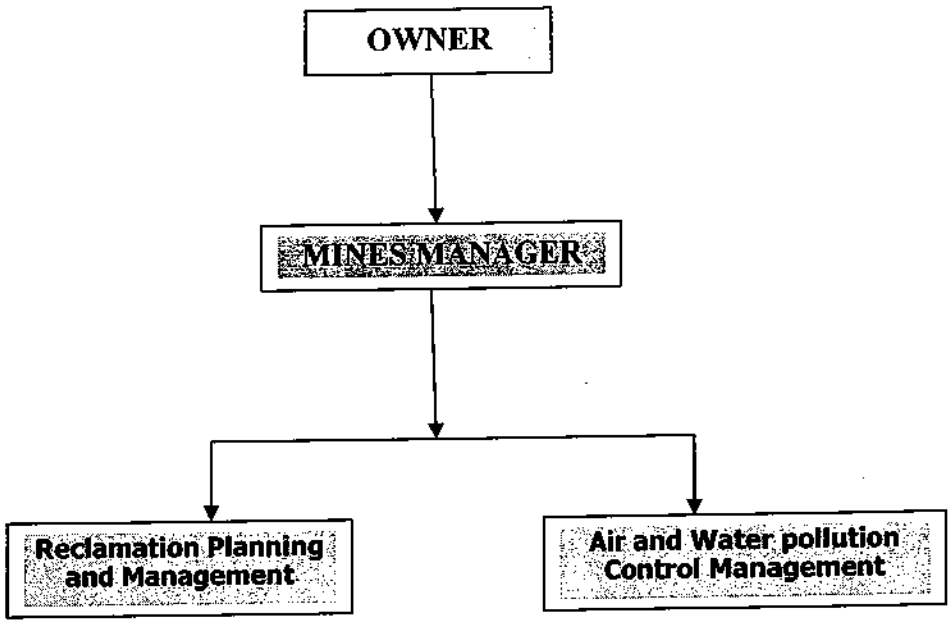
Note: *1683 plants * 500 Rs (for each plants including hedges and fences) = Rs. 8.415 lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/-or 1,50,000-(including maintenance)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 30472 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance.



Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
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C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
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2	Medium Risk	5-12

3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

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2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed

1081

- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement

- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Surjudih Stone Deposit of M/s Satyam Stone Mining (Partner : Shri Ashish Kumar Verma & Shri Pradeep Mishra), Mouza : Surjudih, Anchal : Dumri, Distt. : Giridih, Jharkhand (1.841 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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39. Baddiha Stone Deposit of M/s Mahadeo Stone Mine (Partner : Shri Dhananjay Kumar & Shri Bikash Kumar), Village : Baddiha, P.S. : Jamua, Distt. : Giridih, Jharkhand (1.459 Ha).

(Proposal no.: SIA/JH/MIN/ 534310 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 32865 cum/year or 88736 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	**Baddiha Stone Deposit**	
2	Lessee:	:	M/s Mahadeo Stone Mine (Partner – Sri Dhananjay kumar, & Sri Bikash Kumar) Gram- Baddiha, P.O.- Mirzaganj, Thana- Jamua, Dist.- Giridih, State-Jharkhand	
3	Lease Address	:	Mouza – Baddiha, Thana- Jamua District – Giridih, State - Jharkhand	
4	Lease Area	:	1.459 Ha	Acres- 3.60 Acres
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 70 Lakhs	
7	EMP Budget	:	Capital: Rs. 6.87 lakhs	Recurring: Rs. 4.37 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 302893.33 cum	Tonnes: 817812 tons
10	Mine Life	:	10 years	
11	Man power	:	19	
12	Water Requirement	:	5.10 KLD (Drinking: 0.19 KLD, Dust Suppression: 2.25 KLD, Plantation: 2.35 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	100 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Usri River, approx. 1.95 km towards NE direction	
17	Nearest Habitation	:	Approx. 5.77 km	
18	Nearest Rail Station	:	Jamua Railway station, approx. 6.23 km towards SSW direction.	
19	Nearest Air Port	:	Giridih Airport, approx. 24.72 km towards SSE direction	
20	Nearest Forest	:	Protected Forest, Approx. 3.50 km. in ENE direction of mine site.	
21	Road & Highways	:	SH- 133 - Approx. 5.58 km in SSW direction.	

CO-ORDINATES

SL. NO.	LATITUDE	LONGITUDE
1	24° 24' 28.223" N	86° 11' 5.322" E
2	24° 24' 28.207" N	86° 11' 3.593" E
3	24° 24' 25.547" N	86° 11' 3.377" E
4	24° 24' 24.163" N	86° 11' 5.066" E
5	24° 24' 22.830" N	86° 11' 5.502" E
6	24° 24' 22.515" N	86° 11' 6.431" E
7	24° 24' 22.090" N	86° 11' 6.040" E
8	24° 24' 21.332" N	86° 11' 7.368" E
9	24° 24' 22.247" N	86° 11' 7.903"E
10	24° 24' 25.776" N	86° 11' 7.456" E
11	24° 24' 26.850" N	86° 11' 6.372" E
12	24° 24' 27.589" N	86° 11' 4.960" E
13	24° 24' 26.410" N	86° 11' 5.728" E

LAND DETAILS

Khata no.	Plot no.
296	55 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 221/M, dated 24.03.2025.
2	CO	:	The CO, Jamua (Giridih) vide letter no. 868, dated 28.09.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 361/M, dated 11.04.2025 certified that 02 LoI (1.5525 Acre & 1.23 Acre) exists within 500 meters radius from proposed project site and total area is 6.3825 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1958, dated 06.09.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih West Forest Division vide letter no. 1644, dated 08.10.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.

6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 64, Sl. no. 89).
7	Gram Sabha	:	BDO, Jamua (Giridih) vide letter no. 1358, dated 14.10.2024 informed that Gram Sabha conducted on 14.10.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director, Geology, District Geological Office, Bokaro vide Memo No. 79, dated 09.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi Mechanized Method	
2	Quarry Area	:	**1.459 Ha or 3.60 Acre**	Life of Mine 10 Years
3	Waste Generation	:	28870 cum	
4	Stripping Ratio	:	1: 0.06	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	386 AMSL to 380 AMSL	
8	Ground Level Elevation	:	380 AMSL	
9	Ultimate Working Depth	:	Up to 355 AMSL (25 mgbl)	
10	Water Table	:	340 AMSL (40 mbgl)	
11	Topography of Mine	:	The area represents undulating topography	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	150 litre/day	

Production Details

Year	Production of stone in tonnes	Production of stone in cum	Production of soil in cum	Intercalated waste in cum	Total waste in cum	Bench AMSL
1st Year	29151	78707	20655	1534	22189	385-379
2nd Year	30281	81759	0	1594	1594	379-373
3rd Year	31331	84594	0	1649	1649	373-367

4th Year	32462	87646	0	1709	1709	367-361
5th Year	32865	88736	0	1730	1730	361-355
Total	156090	421442	20655	8215	28870	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	Nil	0.697	1.022 (Entire area shall be left as water reservoir for rain water harvesting)
Waste dump	Nil	0.252	0.0
Road	Nil	0.004	Comes Under Quarry
Safety Zone (Plantation)	Nil	0.437 (Plantation)	0.437 (Plantation)
Total	0.0	1.390	1.459
Unused Area	1.459	0.069	0.0
Total Lease Area	**1.459**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.43 ha	1075
2	Along Approach Road	:	62 m	124
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	6,04,500	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**8,04,500**	**4,87,000**

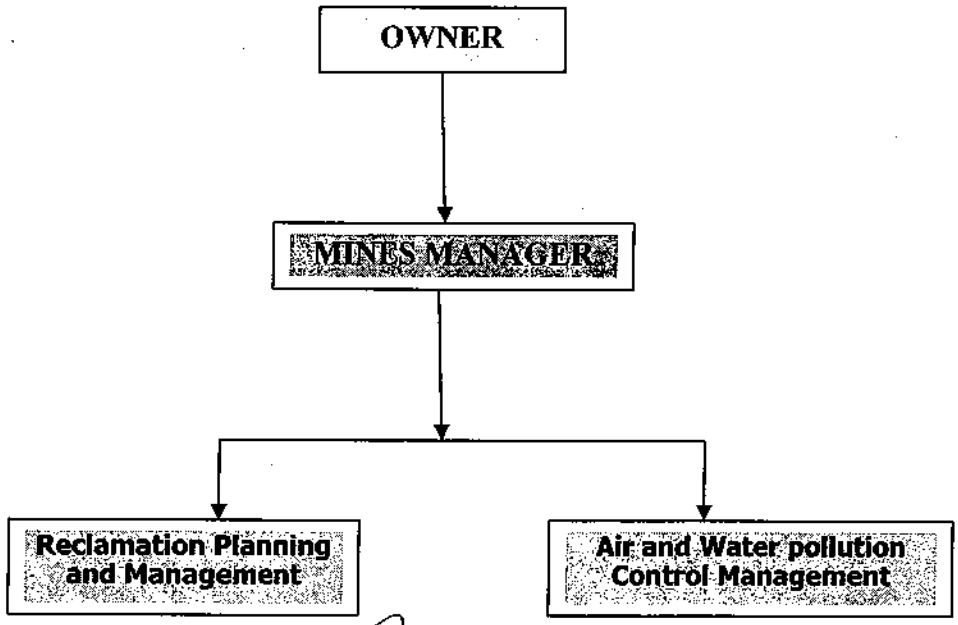
***Note:** *1209 plants * 500 Rs (for each plants including hedges and fences) = Rs. 5,87,500/-*
*Salary of Labor for haul road maintenance 1 labor*300 =300 per day*
300 300 = 90000/- ~ 1,50,000/-*

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 28870 cum waste will be generated during the plan period. It will be utilized for approach & haul road maintenance.



Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.

L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12

3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed

- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

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While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

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- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
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- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the

weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area,

utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Baddiha Stone Deposit of M/s Mahadeo Stone Mine (Partner : Shri Dhananjay Kumar & Shri Bikash Kumar), Village : Baddiha, P.S. : Jamua, Distt. : Giridih, Jharkhand (1.459 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

40. Chormuria Stone Deposit of M/s Jay Baba Dubey Stone Works (Partner : Shri Sukdev Pandit & Others), Village : Chormuria, Anchal : Jarmundi, Distt. : Dumka, Jharkhand (0.970 Ha).

(Proposal no.: SIA/JH/MIN/ 533593 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 09.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 12008 cum/year or 34747 TPA.

Project and Location Details :

Sl	Parameter		Details	
1	Project Name	:	**Chormuria Stone Deposit**	
2	Lessee:	:	M/S JAY BABA DUBEY STONE WORKS Partner - 1-Sri Sukdev Pandit, S/O Late Nakul Pandit. Village- Baisdih, P.O.-Dumariya, Dist.- Deoghar Partner-2- Sri Shyamal Prasad Singh, S/O Sri Rajendra Prasad, Village- Pipra, P.O-Basubatia, Dist.- Deoghar Jharkhand	
3	Lease Address	:	Mouza –Chormuria, Anchal- Jarmundi District – Dumka, State - Jharkhand	
4	Lease Area	:	0.970 Ha	Acres- 2.41 Acres
5	Type of Land	:	Non- Forest (Raiyati Land)	
6	Project Cost	:	Rs. 70 Lakhs	
7	EMP Budget	:	Capital: Rs.15.52 lakhs	Recurring: Rs. 4.87 Lakh / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	cum.: 60260.37 cum	Tonnes: 162703 tons
10	Mine Life	:	5 years	
11	Man power	:	15	
12	Water Requirement	:	13.0 KLD (Drinking: 0.15 KLD, Dust Suppression: 6.95 KLD, Plantation: 5.17 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	150 KVA	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Tepra River, approx. 1.5 km towards East direction	
17	Nearest Habitation	:	Approx. 1.5 km	
18	Nearest Rail Station	:	Chandanpahari Railway station, approx. 6.22 km towards NNW direction.	
19	Nearest Air Port	:	Deoghar, Airport, approx. 30.01 km towards NW direction.	
20	Nearest Forest	:	Protected Forest, Approx. 10.5 km. in East direction of mine site.	
21	Road & Highways	:	NH- 144 - Approx. 6.30 km in NNE direction.	

CO-ORDINATES

SL. NO.	LATITUDE	LONGITUDE
1	24° 20' 35.974" N	87° 0' 27.656" E
2	24° 20' 35.454" N	87° 0' 28.731" E
3	24° 20' 33.721" N	87° 0' 26.319" E
4	24° 20' 33.832" N	87° 0' 24.355" E
5	24° 20' 33.150" N	87° 0' 25.184" E
6	24° 20' 31.869" N	87° 0' 23.893" E
7	24° 20'29.731" N	87° 0' 23.320" E
8	24° 20'28.551" N	87° 0' 20.809" E
9	24° 20'28.990" N	87° 0' 20.332" E
10	24° 20'30.426" N	87° 0' 22.651" E
11	24° 20'32.422" N	87° 0' 23.068" E
12	24° 20'33.288" N	87° 0' 24.246" E
13	24° 20'34.121" N	87° 0' 23.720" E
14	24° 20'35.075" N	87° 0' 24.542" E
15	24° 20'34.511" N	87° 0' 25.628" E

LAND DETAILS

Khata no.	**Plot no.**
06, 07 & 14/1	271(P), 277(P), 278(P), 279, 280, 282(P), 344(P), 345, 346, 347, 348, 349(P), 350(P), 354(P), 356

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dumka vide letter no. 90/M, dated 16.01.2025.
2	CO	:	The CO, Jarmundi (Dumka) vide letter no. 42/Ra., dated 13.01.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dumka vide memo no. 501/M, dated 10.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2187, dated 04.11.2022 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.

5	DFO Territorial	:	Divisional Forest Officer, Dumka Forest Division vide letter no. 2692, dated 31.12.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dumka has been certified vide memo no. 549/M, dated 27.03.2025 that this project is mentioned in approved DSR of Dumka District as a potential area (Page no. 190).
7	Gram Sabha	:	Gram Sabha conducted on 07.11.2022.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dumka vide Letter No. 441/M, dated 27.02.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi Mechanized Method	
2	Quarry Area	:	**0.970 Ha. or 2.41 Acre**	Life of Mine 5 Years
3	Waste Generation	:	11493 cum	
4	Stripping Ratio	:	1: 0.07	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	217 AMSL to 224 AMSL	
8	Ground Level Elevation	:	217AMSL	
9	Ultimate Working Depth	:	Up to 209 AMSL (8 mgbl)	
10	Water Table	:	200 AMSL (17 mbgl)	
11	Topography of Mine	:	The area represents undulating topography	
12	Explosive Requirement	:	120 kg/day	
13	Diesel/Fuel requirement	:	150 litre/day	

Production Details

Year	Production of stone in tonnes	Production of stone in cum	Production of soil in cum	Intercalated waste in cum	Total waste in cum	Bench AMSL
1st Year	12038	32504	2928	634	3562	220-214

2nd Year	11902	32134	768	626	1394	220-214
3rd Year	11803	31868	896	621	1517	220-214
4th Year	12008	34747	3776	632	4408	220-214
5th Year	11628	31396	0	612	612	214-209
Total	**59379**	**162648**	**8368**	**3125**	**11493**	

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Excavation	0.0	0.376	0.376 (Entire area shall be left as water reservoir for rain water harvesting)
Safety Zone	0.0	0.594(Plantation)	0.594(Plantation)
Total	**0.00**	**0.970**	**0.970**
Unused Area	**0.970**	**0.00**	**0.00**
Total Lease Area	**0.970**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.594 ha	1485
2	Along Approach Road	:	523 m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	12,92,500	1,00,000
4	Construction and maintenance of haul road	2,60,000	1,50,000
TOTAL		**15,52,500**	**4,87,000**

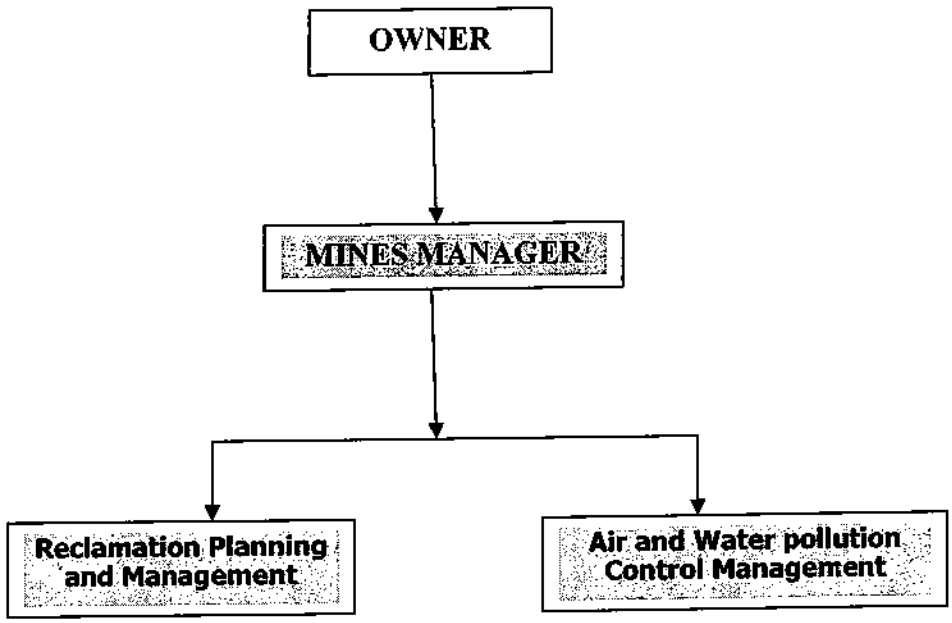
Note: *2585 plants * 500 Rs (for each plants including hedges and fences) = Rs. 1292500/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 11493 cum waste will be generated during the plan period. It will be utilized for approach & haul road maintenance.



Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.

L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12

3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed

- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

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- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
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- Mine road shall be made smooth regularly with a road roller.
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e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Chormuria Stone Deposit of M/s Jay Baba Dubey Stone Works (Partner : Shri Sukdev Pandit & Others), Village : Chormuria, Anchal : Jarmundi, Distt. : Dumka, Jharkhand (0.970 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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Consideration of proposals

1. **Gutti Stone Deposit of M/s R & S Stone Works (Partner : Shri Gyan Chandra Kumar & Others), Village : Gutti, Anchal : Mandro, Distt. : Sahibganj, Jharkhand (1.21 Ha).**

   (Proposal no.: SIA/JH/MIN/ 534130 /2025)

   Name of the consultant : P & M Solution, Noida, U.P.

   This is a new project which has been taken for appraisal on 10.05.2025.

   Project Sector: 1(a) Mining of Minerals, Category: B2.

   Application for Environmental Clearance (EC).

   EC Application for: Proposed Capacity- 24489.10 cum/annum or 66120.57 TPA

   Project and Location Details:

S.No.	Parameter		Details	
1	Project Name	:	Gutti Stone Deposit	
2	Lessee:	:	M/S R & S Stone Works Partner. – Sri Gyan Chandra Kumar & Others, S/o Sri Dr. Chandra Kishore Sahi, D.C.K Sahi, Complex, Brijbhan Singh, Vip Chowk, P.O. + Thana + Dist.-Deoghar, State-Jharkhand	
3	Lease Address	:	Village – Gutti, District – Sahibganj, State – Jharkhand	
4	Lease Area	:	1.21 ha.	Acres-3.00 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.75 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	660744.00 tonnes	
10	Mine Life	:	9.99 or 10 years	
11	Man power	:	34	
12	Water Requirement	:	9.55 ~ 10.00 KLD (Drinking: 0.34 KLD, Dust Suppression: 5.11 KLD, Plantation: 4.1 KLD)	
13	Water Source	:	Water will be taken from nearby village.	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	None within 10km of the Project Site	
17	Nearest Habitation	:	Sahibganj, Approx. 10.26 km towards ENW direction	
18	Nearest Railway Station	:	Karamtola Railway station, approx. 5.19 km towards NNE direction.	

19	Nearest Airport	:	Deoghar Airport, approx. 119.38 km towards SW direction.
20	Nearest Forest	:	Protected Forest Approx. 3.33 km towards West direction of mine site. Protected Forest Approx. 4.51 km towards NW direction of mine site. Fairly Dense Mixed jungle Approx. 1.71 km towards East direction of mine site.
21	Road & Highways	:	NH- 33, Approx. 5.36 km towards NNE direction

CO-ORDINATES

Latitude– 25° 12' 57.34" - 25° 13' 01.96" N
Longitude–87° 31' 20.43" - 87° 31' 22.39" E

Land Details :

Khata No.	Plot No.
17	50(P)
36	51
11	52
06	232

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 106/M, dated 21.01.2025.
2	CO	:	The CO, Mandro vide memo no. 493/Ra., dated 04.12.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO Cluster and Grid Certificate	:	DMO, Sahibganj vide memo no. 483/M, dated 18.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1952, dated 25.07.2022 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 2456, dated 14.12.2021 certified that the distance of reserved / protected forest is more than 250 meters from proposed project

			site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District as a potential village (Page no. 185, Sl. No. M_PZ-1). The PAs also submitted a certificate from DMO, Sahibganj issued vide its letter no. 719/M, dated 26.04.2025 in which it has been mentioned that the said project proposal is consider as part of chapter 13 (LoI Holder list in the District) of approved District Survey Report & further requested that this project may be taken up for consideration for grant of EC. The Committee accepted the request of the DMO, Sahibganj.
7	Gram Sabha	:	Gram Sabha conducted on 20.10.2021.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 519, dated 20.03.2025.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method.	
2	Quarry Area	:	1.21 Ha. or 3.00 Acre	Life of Mine – 9.99 or 10 years
3	Waste Generation	:	Total 7165.60cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	235AMSL to 210 AMSL	
8	Ground Level Elevation	:	210 AMSL	
9	Ultimate Working Depth	:	196 AMSL (14 m bgl)	
10	Water Table	:	190-195AMSL (15-20 m bgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production detail and waste generation

Year	Production of stone in Cum	Production of stone in Tonnes	Waste (Cum) in plan period	Waste (Cum) in Ultimate	Bench mRL
1st Year	22610.00	61047.00	1822.00		220-235

2nd Year	24489.10	66120.57	1705.90	7528.40	214-220
3rd Year	23362.40	63078.48	1229.0		214-220
4th Year	21614.40	58358.88	1315.0		208-220
5th Year	20757.50	56045.25	1092.50		208-214
Total	**112833.40**	**304650.18**	**7165.60**	**7528.40**	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	0.0	0.68	0.83(Entire area shall be left as water reservoir for rain water harvesting)
Mine Road	0.03	0.01	Comes under quarry
Safety Zone (Plantation)	0.0	0.38 (Plantation)	0.38 (Plantation)
Total	0.03	1.07	0.38
Balance	1.18	0.14	0.0
Total Lease Area	1.21		

ENVIRONMENT MANAGEMENT

Green Belt Development

Year	Safety Zone Area (in Hectare)/No. of Plants	Plantation along both sides of Approach road	No. of plants distributed with consultation local authorities /village Panchayat
1st Year	Excavation for Plantation		
2nd year	0.38/950	1000	100
3rd year	Care / Protection of Plants		
4th year			
5th Year			
Total	950	1000	100
Total no. of plants	**2050**		

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary)

and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	14,000 8,000 8,000 7,000
3	Plantation	10,25,000	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
TOTAL		**12,75,000**	**4,87,000**

Note: *2050 plants * 500 Rs (for each plants including hedges and fences) = Rs. 10, 25,000/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/- (including maintenance)
**** 5.0 lakh per kilometer (500000 * 0.50 km haul road = 2,50,000/-)***

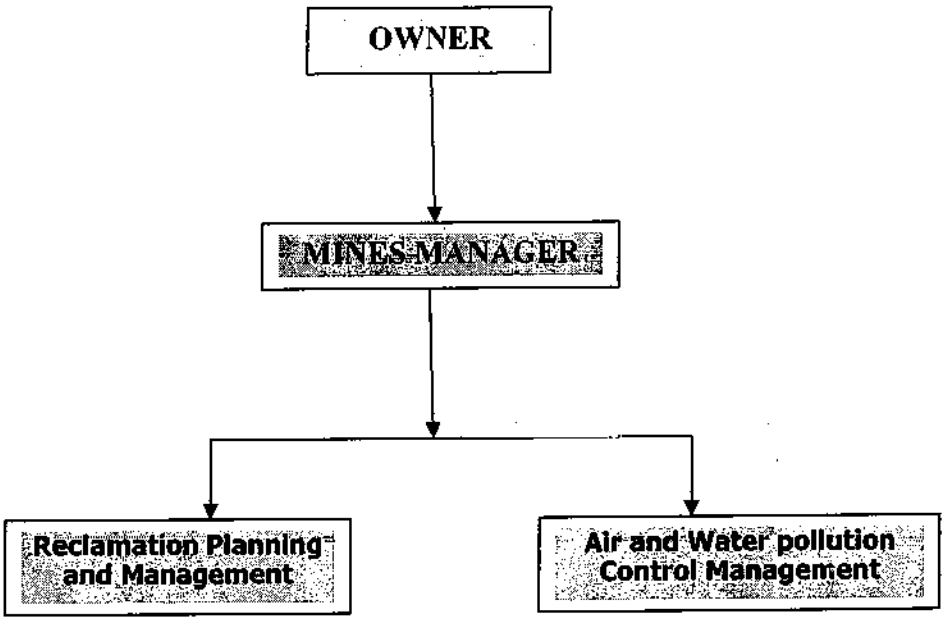
Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly

4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 7165.60 cum waste generated during this mining plan period, so there is no requirement of waste dumping Plan for this period because it is used for village & haul road maintenance, period and ultimate stage total 7528.40 cum waste generated which is used for village & haul road maintenance.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment

C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6

4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.

- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Gutti Stone Deposit of M/s R & S Stone Works (Partner : Shri Gyan Chandra Kumar & Others), Village : Gutti, Anchal : Mandro, Distt. : Sahibganj, Jharkhand (1.21 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

2. **Tetaria Stone Deposit of M/s Alok Stone (Prop. : Shri Alok Ranjan), Village : Tetaria, Anchal & Thana : Borio, Distt. : Sahibganj, Jharkhand (2.023 Ha).**

(Proposal no.: SIA/JH/MIN/ 534186 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 76720cum/annum or 207144 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Tetaria Stone Deposit	
2	Lessee:	:	M/s Alok Stone Proprietor: Sri Alok Ranjan S/o Late Bajrang Kumar Mishra Vill + P.O- Kasba, Dudhanichak P.S.- Meharma, Dist- Godda, State- Jharkhand	
3	Lease Address	:	Mouza- Tetariya , Anchal & Thana – Borio, District- Sahibaganj, State – Jharkhand	
4	Lease Area	:	2.023 ha.	Acres- 5.00 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 12.28 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	757575.5 cum	2045455 Tonnes
10	Mine Life	:	9.9 year or says 10 year.	
11	Man power	:	20	
12	Water Requirement	:	12.7 ~ 13.00 KLD (Drinking: 0.20 KLD, Dust Suppression: 4.7KLD, Plantation: 7.8 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga River, Approx. 4.11 km. in North direction of mine site.	
17	Nearest Habitation	:	Sahibganj, Approx. 3.40 km towards NW direction	
18	Nearest Railway Station	:	Sahibganj Railway station, approx 5.62 km towards NW direction	
19	Nearest Airport	:	Deoghar Airport, approx. 130.0 km towards SW direction	
20	Nearest Forest	:	Mixed Dense Jungle Approx. 2.00 km. in West direction of mine site.	

21	Road & Highways	:	NH - 33, Approx 3.22 km towards North direction.

CO-ORDINATES

1	Latitude	:	From 25°12' 10.6236" N	To 25°12' 15.8797" N
2	Longitude	:	From 87°40' 28.9062" E	To 87°40' 25.0467" E

LAND DETAILS

J.B. no.	Plot no.
28	33 (P)
01	34 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 177/M, dated 06.02.2025.
2	CO	:	The CO, Borio, Sahibganj vide memo no. 649/Ra., dated 29.08.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster and Grid Certificate	:	DMO, Sahibganj vide memo no. 178/M, dated 06.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1277, dated 27.06.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1276, dated 27.06.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The LoI was granted on 06.02.2025. The DSR for Sahibganj was approved by the Sub-Divisional Committee on 21.12.2024 and submitted to SEIAA for approval on 16.01.2025. However, this project lies within the potential village in page no. 197 of approved DSR. However, DMO, Sahibganj vide letter no. 636/M, Dated 09.04.2025 requested to consider the said project proposal as part of chapter 13 (LoI Holder list in the District) of approved District Survey Report & further requested that this project may be taken up for consideration for grant of EC.

			The Committee accepted the request of the DMO, Sahibganj.
7	Gram Sabha	:	Gram Sabha conducted on 18.07.2024.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 628, dated 08.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method	
2	Quarry Area	:	2.023 Ha. or 5.0Acre	Life of Mine –9.9 year or says 10 year.
3	Waste Generation	:	Total 51949 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.17	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	135 AMSL to 125 AMSL	
8	Ground Level Elevation	:	125 AMSL	
9	Ultimate Working Depth	:	93 AMSL (32m BGL)	
10	Water Table	:	48-50 AMSL (75-77 m BGL)	
11	Topography of Mine	:	Undulating hillocks	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	100 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in Cum	Bench Bottom mRL
1st Year	75163	202940	35395	123-135
2nd Year	75305	203322	4559	117-123
3rd Year	75446	203705	3971	111-117
4th Year	75729	204469	3986	105-111
5th Year	76720	207144	4038	93-99
Total	**378363**	**1021581**	**51949**	-

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan Period (Ha)	At the Conceptual stage i.e. end of mine life (Ha)
Quarry	NIL	1.271	1.680 (area shall be converted in

			to water reservoir)
Waste dump	NIL	0.390	Nil (waste dump to be removed and backfilled)
Road	NIL	0.007	0.00
Plantation (Safety zone)	NIL	0.343	0.343
Total	0.000	2.011	2.023
Unused Area	2.023	0.012	0.0
Total Lease Area	2.023		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.343 ha	857
2	Along Approach Road	:	500 m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	9,78,500	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
TOTAL		**12,28,500**	**4,87,000**

Note: *1957 plants * 500 Rs (for each plants including hedges and fences)= 9.78 lakh

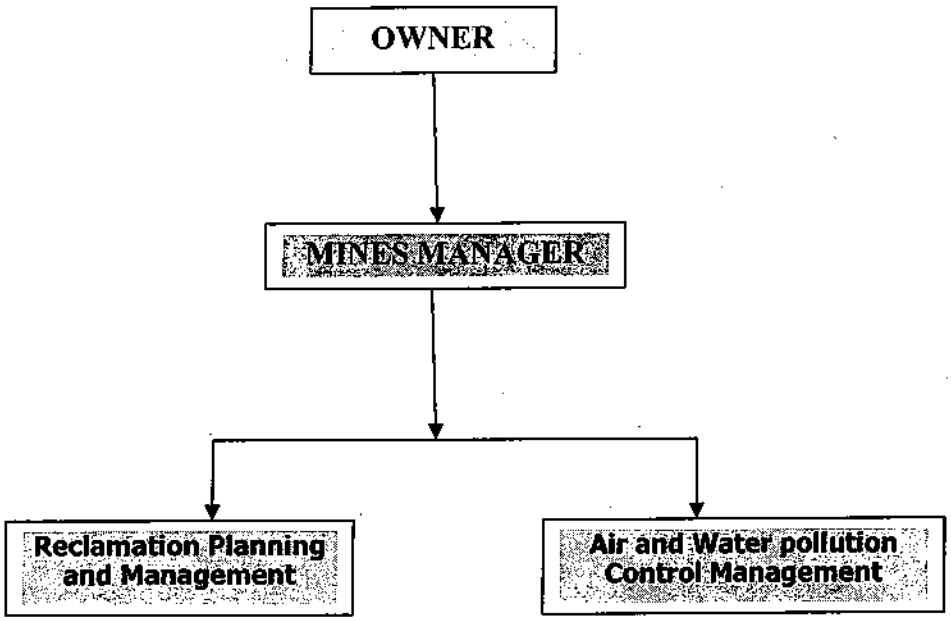
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90,000/- or 1,50,000/- (including maintenance)
**** 5.0 lakh per kilometer (5,00,000* 0.50 km haul road = 2,50,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 51949 cum waste during the plan period, which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.

- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss,

		There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likellhood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling

- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.

- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Tetaria Stone Deposit of M/s Alok Stone (Prop. : Shri Alok Ranjan), Village : Tetaria, Anchal & Thana : Borio, Distt. : Sahibganj, Jharkhand (2.023 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

3. **Bhutha Stone Mine of Shri Pradhan Murmu, Village : Bhutha, Circle : Mandro, Distt. : Sahibganj, Jharkhand (1.62 Ha).**

(Proposal no.: SIA/JH/MIN/ 535761 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2016-17/35, dated 17.03.2017.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 353/M, dated 20.02.2025 by DMO, Sahibganj is within the permissible limit of EC.

The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 1942, dated 22.10.2024.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 22264.07 cum/annum or 60113 TPA.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Bhutha Stone Mine
2	Lessee:	:	Shri Pradhan Murmu

3	Lease Address	:	Mouza - Bhutha, Circle–Mandro, District – Sahibganj, State- Jharkhand	
4	Lease Area	:	1.62 ha	Acres- 4.00 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 1.10 cr.	
7	EMP Budget	:	Capital: Rs. 14.00 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	216392.96 cum	584261.00 tons
10	Mine Life	:	9.73 years (Up to the lease period i.e. 20.03.2025 to 19.03.2035)	
11	Man power	:	10	
12	Water Requirement	:	11.25~11.50 KLD (Drinking: 0.10 KLD, Dust Suppression: 7.35 KLD, Plantation: 3.8 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganges River, Approx. 13.76 km towards ENE direction of mine site.	
17	Nearest Habitation	:	Bartala village, Approx. 0.86 m in North direction of mine site.	
18	Nearest Railway Station	:	Mirza cheuki Railway station, approx. 1.91 km towards NNW direction	
19	Nearest Air Port	:	Deoghar Airport, Jharkhand approx. 119.67 km towards SW direction.	
20	Nearest Forest	:	Fairly dense mixed Jungle, Approx. 2.00 km towards SE direction of mine site.	
21	Road & Highways	:	NH-33, Approx. 2.17 km. in NNW direction.	

CO-ORDINATES

1	Latitude	:	From N 25°14'28.2"	To N 25°14'37.7"
2	Longitude	:	From E - 87°30'00.4"	To E 87°30'01.2"

LAND DETAILS

Khata no.	Plot no.
32	73 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The earlier lease deed has been executed by Deputy Commissioner, Sahibganj for the period 20.01.2016 to 31.03.2022 as per JMMC Rule, 2017 as amended from time to time. In the light of letter no. 1647/M, dated 30.08.2024 of Directorate

			of Mines, Govt. of Jharkhand the Deputy Commissioner, Sahibganj vide its order dated 20.03.2025 has extended the lease period for further 10 years i.e. 20.03.2025 to 19.03.2035 and this has been communicated to lessee by DMO, Sahibganj vide memo no. 552/M dated 24.03.2025.
2	CO	:	The CO, Mandro vide memo no. 34/Ra., dated 20.01.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster & Grid Certificate	:	DMO, Sahibganj vide memo no. 351/M, dated 20.02.2025 certified that 01 other mining lease area (3.15 Acre) exists within 500 meters radius from proposed project site and also certified that said project falls under grid no. 1 and production is within the over all permissible production limit.
4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 751, dated 19.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 1047, dated 13.04.2025 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 133, Page no. 144).
7	Gram Sabha	:	Gram Sabha conducted on 27.07.2024.
8	Scheme / Mine Plan Approval	:	Mining plan approved by DMO, Sahibganj vide Memo No. 2251/M, dated 27.08.2016.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2016-17/35, dated 17.03.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 1942, dated 22.10.2024.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-4475700 /2019/260, dated 08.04.2019.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. No. JSPCB/RO/DMK/CTO-5173539 /2019/60, dated 23.04.2019.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 819/M, dated 10.05.2025.

14	Qualified Person	:	Dr. Amarjeet Kumar Singh vide e-mail dated 10.05.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi Mechanized Mining Method	
2	Quarry Area	:	1.62 ha or 4.00 Acres	Life of Mine – 9.73 years
3	Waste Generation	:	Total 4058.8 cum of waste will be generated during the plan period.	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	220 AMSL to 160 AMSL	
8	Ground Level Elevation	:	160 AMSL	
9	Ultimate Working Depth	:	136 AMSL (24 mbgl)	
10	Water Table	:	130 -128 AMSL (30 – 32 mbgl)	
11	Topography of Mine	:	Area represents is gently rising.	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	100 litre/day	

Production Details

Year	Year wise excavation in ton	Year wise excavation in cum	Total waste in cum	Bench AMSL
1st	60000	22222.22	1169.60	178-172
2nd	60000	22222.22	1169.60	178-172
3rd	60000	22222.22	1719.60	178-172
Total	**180000**	**66666.66**	**4058.8**	

As per EC letter-

Year	Production in MT
1st	60010
2nd	60032
3rd	60016

4th	60002
5th	60113
Total	**300173**

As per approved mine plan production: - 22222.22 cum/annum or 60000 TPA.
As per EC letter production: - 22264.07 cum/annum or 60113 TPA.

Land Use

Pattern of Utilization	Existing Land Use (in Ha)	At the end of modification to the approved scheme of mining period (in Ha)	At ultimate stage (in Ha)
Quarry	1.06	1.10	1.23 (entire area shall be left as water reservoir)
Infrastructure	--	0.01	-
Mine road	Comes under quarry	Comes under quarry	--
Garland drain	--	0.05	--
Safety zone	0.39 (Plantation)	0.39 (Plantation)	0.39 (Plantation)
Settling tank	--	0.01	--
Total area in use	**1.45**	**1.56**	**1.62**
Balanced Unused Area	0.17	0.06	--
Total Lease area	**1.62**	**1.62**	**1.62**

ENVIRONMENT MANAGEMENT
Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.39 ha	975 (Already done during previous year of mining)
2	Along Approach Road	:	900 m	1800
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note: A total of 2875 saplings were proposed to be planted. Out of which 975 plant in Safety Zone area have been planted during previous year of mining.
(1800 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1900 Plants)

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary)

and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

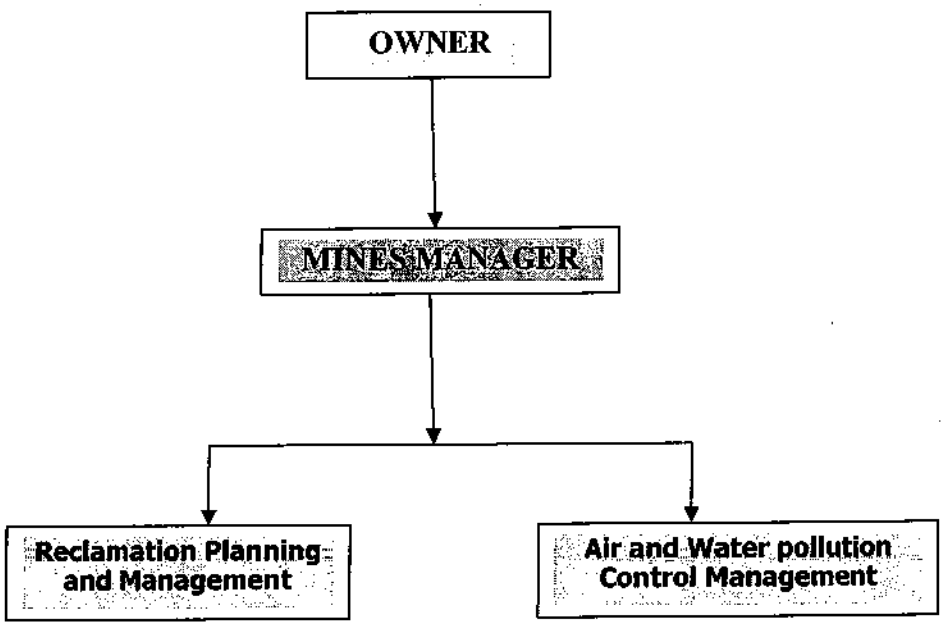
Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	9,50,000	1,00,000
4	Construction and maintenance of haul road	4,50,000	1,50,000
TOTAL		**14,00,000**	**4,87,000**

Note: *1900 plants * 500 Rs (for each plants including hedges and fences) = 9.50 Lakh
A total of 2875 saplings were proposed to be planted. Out of which 975 plant in Safety Zone area have been planted during previous year of mining.
(1800 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1900 Plants)
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/-(including maintenance)
* 5 lakh per kilometer (500000 * 0.90 km haul road = 4,50,000/)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management
Total 4058.8 cum of waste will be generated during the plan period, which will be used for construction of approach road and also use for road fillings.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1	5	4	3	2	1

(Catastrophic)					
C2 (Major)	10	8	6	4	2
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.

- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bhutha Stone Mine of Shri Pradhan Murmu, Village : Bhutha, Circle : Mandro, Distt. : Sahibganj, Jharkhand (1.62 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.
II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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4. Partemako Stone Deposit of Smt. Asha Devi, Village : Partemako, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.598 Ha).

(Proposal no.: SIA/JH/MIN/ 535797 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 68854 cum/year or 185906 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Partemako Stone Deposit	
2	Lessee:	:	Smt. Asha Devi W/O- Sri Bhim Narayan Yadav Address- Village - Lakdakol, Po-Mathurapur, P.S.- Pirpainti, District- Bhagalpur, Bihar..	
3	Lease Address	:	Village – Partemako, Anchal.-Borio, District- Sahibganj, State- Jharkhand	
4	Lease Area	:	2.598 ha.	Acres- 6.42 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 70.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 15.11 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	643394.07cum	1737164 Tonnes
10	Mine Life	:	10 years	
11	Man power	:	25	
12	Water Requirement	:	11.09 ~ 11.10KLD (Drinking: 0.25 KLD, Dust Suppression: 5.8 KLD, Plantation: 5.04 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	2500KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga River Approx 6.28 km. in WSW direction of mine site..	
17	Nearest Habitation	:	Borio, approx. 19.81 km towards SSW direction.	
18	Nearest Railway Station	:	Maharajpur Railway station, approx. 6.17 km towards NE direction	
19	Nearest Airport	:	Deoghar Airport, approx.130 km towards SW direction	
20	Nearest Forest	:	Protected Forest, Approx 0.5 km. in South direction of mine site. Protected Forest, Approx 0.8 km. in South direction of mine site. Protected Forest, Approx 1.0 km. in South direction of mine site. Protected Forest, Approx 1.5 km. in South direction of mine site. Protected Forest, Approx 2.0 km. in South direction of mine site	
21	Road & Highways	:	NH-33, Approx. 6.02 km. in WSW direction.	

CO-ORDINATES

1	Latitude	:	From 25° 11' 3.301" N	To 25° 11' 10.834" N
2	Longitude	:	From 87° 41' 17.207"E	To 87° 41' 25.190" E

LAND DETAILS

Plot no.
28 (P), 29 (P), 30 (P) & 120 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 520/M, dated 20.03.2025.
2	CO	:	The CO, Borio, Sahibganj vide letter no. 731/Ra., dated 05.10.2021 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster and Grid Certificate	:	DMO, Sahibganj vide memo no. 542/M, dated 22.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 2698, dated 21.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide letter no. 2630, dated 16.10.2020 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Sahibganj has been certified vide memo no. 699/M, dated 25.04.2025 that this project is mentioned in approved DSR of Sahibganj District as a potential area (Page no. 181).
7	Gram Sabha	:	Gram Sabha conducted on 08.09.2021.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 725/M, dated 26.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi- Mechanized Method	
2	Quarry Area	:	2.598 Ha. or 6.42Acre	Life of Mine –10 years
3	Waste Generation	:	Total 57527 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.19	

5	Working Days	:	300
6	Benches: size & No	:	6m x 6m
7	Elevation of Mine	:	272AMSL to 252 AMSL
8	Ground Level Elevation	:	195 AMSL
9	Ultimate Working Depth	:	218 AMSL (34m BGL)
10	Water Table	:	190AMSL (62m BGL)
11	Topography of Mine	:	Undulating hillocks
12	Explosive Requirement	:	110 kg/day
13	Diesel/Fuel requirement	:	100 litre/day

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste in Cum	Bench Bottom mRL
1st	62257	168095	32355	266-254
2nd	64525	174217	14463	254
3rd	66793	180340	3515	248
4th	67823	183123	3570	248-242
5th	68854	185906	3624	242-236
Total	**330252**	**891681**	**57527**	

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan Period (Ha)	At the Conceptual stage i.e. end of mine life (Ha)
Quarry	-	1.542	2.029 (area shall be left as water reservoir).
Waste Dump	-	0.401	Nil (waste dump to be removed and backfilled)
Road	-	0.003	0.00
Plantation(S.Z.)		0.569 (Plantation)	0.569 (Plantation)
Total	-	**2.515**	**2.598**
Unused Area	-	**0.083**	**0.0**
Total Lease Area	**2.598**	**2.598**	**2.598**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.569 ha	1423
2	Along Approach Road	:	500 m	1000

3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	12,61,500	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
TOTAL		**15,11,500**	**4,87,000**

Note: *2523 plants * 500 Rs (for each plants including hedges and fences)= 12.615 lakh

Salary of Labor for haul road maintenance 1 labor*300 =300 per day

300* 300 = 90,000/- or 1,50,000/- (including maintenance)

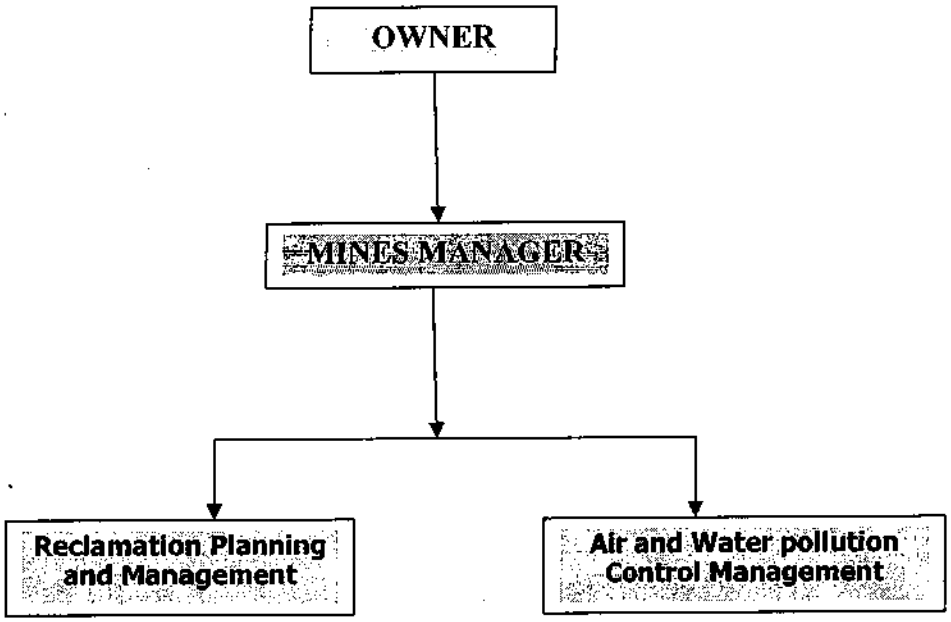
**** 5.0 lakh per kilometer (5,00,000* 0.5 km haul road = 2,50,000 /-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

In this applied lease area, the stone deposit is covered with 2m layer of intermixed soil which considered as over burden. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 57527cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 28763 cum (In situ) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 28763 cum in situ 35954.19cum loose & 30561.06 cum compact waste shall be temporary dumped on the southern part of the applied lease area and it will cover about 0.401ha area.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel

C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5

5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face Instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the

face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.
While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.
The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.

- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Partemako Stone Deposit of Smt. Asha Devi, Village : Partemako, Anchal : Borio, Distt. : Sahibganj, Jharkhand (2.598 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

5. **Barisa Stone Deposit of Shri James Tirkey, Village : Barisa, Anchal : Gumla, Distt. : Gumla, Jharkhand (1.295 Ha).**

(Proposal no.: SIA/JH/MIN/ 535416 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 27731 cum/annum or 74872 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Barisa Stone Deposit	
2	Lessee:	:	Sri James Tirkey S/o Late Emmanuwel Tirkey Address- Sisai Road Naditoli, P.O.+Thana/Dist-Gumla, Jharkhand	
3	Lease Address	:	Village – Barisa, Anchal- Gumla, District – Gumla, State - Jharkhand	
4	Lease Area	:	1.295 ha.	Acres- 3.20 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 75.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 10.67Lakhs	Recurring: 4.87Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	139521.75cum	376708.73Tonnes
10	Mine Life	:	5 years	
11	Man power	:	20	
12	Water Requirement	:	7.65 ~ 8.00 KLD (Drinking: 0.20KLD, Dust Suppression: 4.07KLD, Plantation: 3.38 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	with Crusher	
16	Nearest Water Body	:	Porro Nadi, Approx. 0.50 km towards NE direction of mine site. Khatwa Nadi, Approx. 3.54 km towards N direction of mine site.	
17	Nearest Habitation	:	Gumla, Approx. 3.86 km towards WSW direction	
18	Nearest Railway Station	:	Bakaspur Railway station, approx. 40.59 km towards East direction	
19	Nearest Airport	:	Birsa Munda Airport, approx. 82.31 km towards ENE direction.	
20	Nearest Forest	:	Open mixed Jungle, approx 9.26km, towards west direction.	
21	Road & Highways	:	NH - 43, Approx. 1.51 km towards SSE direction.	

CO-ORDINATES

1	Latitude	:	From 23°3' 51.741" N	To 23°3' 57.481" N
2	Longitude	:	From 84°34' 4.584" E	To 84°34' 7.064" E

LAND DETAILS

Plot no.
1531 & 1529

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by Deputy Commissioner, Gumla vide letter no. 613/M, dated 30.07.2024.
2	CO	:	The CO, Gumla (Sadar) vide letter no. 317, dated 19.03.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Gumla vide memo no. 425/M, dated 07.04.2025 certified that 01 other mining lease area (2.50 Acre) exists within 500 meters radius from proposed project site and total area is 5.70 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 87, dated 15.02.2025 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Gumla Forest Division vide letter no. 14, dated 02.01.2021 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Gumla District (Page no. 48).
7	Gram Sabha	:	BDO, Gumla vide letter no. 314 (ii), dated 02.03.2021 informed that Gram Sabha conducted on 18.02.2021.
8	Mine Plan Approval	:	Approved by District Mining Officer, Gumla vide Letter No. 1038/M, dated 23.12.2024.
9	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	0.1.295Ha. or 3.20Acre	Life of Mine –5years
3	Waste Generation	:	Total 18456cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	610AMSL to 600AMSL	
8	Ground Level Elevation	:	560AMSL	
9	Ultimate Working Depth	:	580AMSL (20m BGL)	
10	Water Table	:	550-545AMSL (50-55m BGL)	
11	Topography of Mine	:	Small Hillocks	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	100 litre/day	

Production Details

Year	Production of stone in Cum	Production of stone in Tonnes	Total Waste In Cum	Bench Bottom mRL
1st Year	27731	74872	7820	610-598
2nd Year	27716	74834	4309	608-598
3rd Year	27716	74834	3409	604-598
4th Year	27716	74834	1459	592-598
5th Year	27716	74834	1459	592-580
Total	**138595**	**374208**	**18456**	-

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan period (Ha)	At Conceptual period (Ha)
Excavation	Nil	0.738	0.738 (0.668 ha converted into water reservoir & 0.07 ha shall be backfilled & plantation)
Waste dump	Nil	0.276 (Comes under quarry)	0.276 (Comes under quarry)
Road	Nil	0.001	0.001

Crusher	Nil	0.16 (Comes under quarry)	0.16 (Comes under quarry)
Safety zone	Nil	0.556 (plantation)	0.556 (plantation)
Unused Area	1.295	--	--
Total	**1.295**	**1.295**	**1.295**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.55ha	1375
2	Along Approach Road	:	220m	440
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs)	Recurring Cost (Rs)
1	Pollution Control & Dust Suppression	Nil	2,00,000
2	Baseline Monitoring i) Air I) Water Ii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	9,57,500	1,00,000
4	Construction and maintenance of haul road	1,10,000	1,50,000
TOTAL		**10,67,500**	**4,87,000**

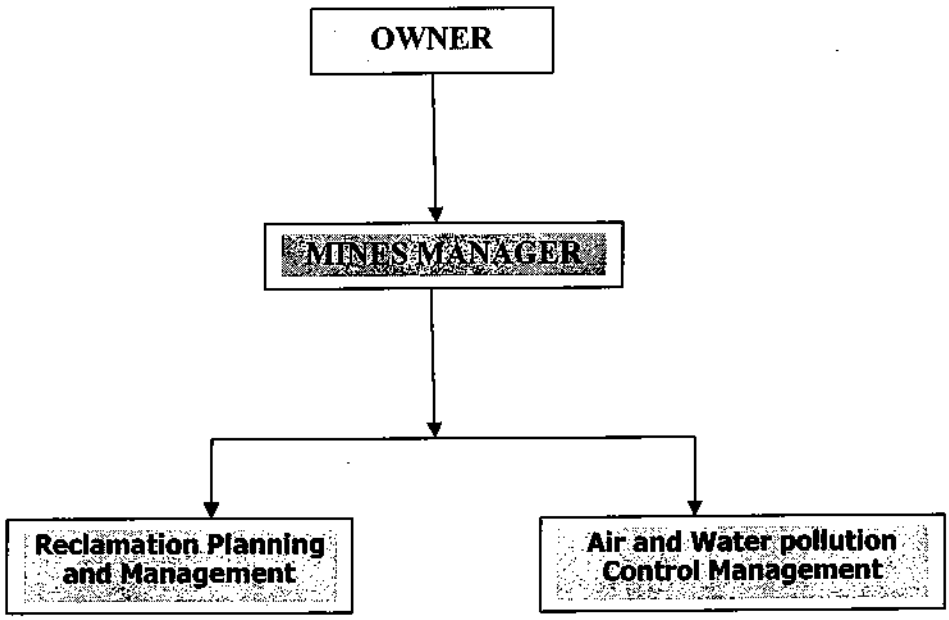
Note: *1915 plants * 500 Rs (for each plants including hedges and fences) = Rs. 9,57,500/-
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- ~ 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

It has been calculated that total 18456.00 cum O.B. and intercalated waste during this plan period. The 50% waste dumping is temporarily dump Northern boundary of the applied lease area then in Conceptual period Part backfill at exhausted area and plantation over it.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.

- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss,

		There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	**L5 (Very Unlikely)**	**L4 (Remote)**	**L3 (Occasional)**	**L2 (Probable)**	**L1 (Frequent)**
C1 (Catastrophic)	5	**4**	**3**	**2**	**1**
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	**Rating**	**Scale**
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	**Activity**	**Hazard**	**Probability**	**Severity**	**Score**
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling

- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.

- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Barisa Stone Deposit of Shri James Tirkey, Village : Barisa, Anchal : Gumla, Distt. : Gumla, Jharkhand (1.295 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

6. **Munkeri Stone Deposit of M/s Jay Bajrang Enterprises (Partners : Shri Sachidanand & Shri Akshay Anand), Mauza : Munkeri, Thana : Chhatarpur, Distt. : Palamau, Jharkhand (1.25 Ha).**

(Proposal no.: SIA/JH/MIN/ 534449 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 39003 cum/annum or 109209 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Munkeri Stone Deposit	
2	Lessee:	:	M/s Jay Bajrang Enterprises Partner-. Sri Sachidanand, and Sri Akshay Anand	
3	Lease Address	:	Mauza – Munkeri, Thana – Chhatarpur, District – Palamu, State- Jharkhand.	
4	Lease Area	:	1.25 ha.	Acres- 3.10 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 80.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 15.00 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	545726 Tonnes	194902 cum
10	Mine Life	:	05 years	
11	Man power	:	32	
12	Water Requirement	:	10.72 ~ 11.00 KLD Drinking: 0.32 KLD, Dust Suppression: 5.8 KLD, Plantation: 4.6 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Batane Nadi, Approx. 2.96 km. in East direction	
17	Nearest Habitation	:	Chhatarpur, Approx. 4.32 km towards West direction.	
18	Nearest Railway Station	:	Japla Railway Station, approx. 30.11 km towards North West direction.	
19	Nearest Airport	:	Gaya International Airport, approx. 82.66 km towards ENE direction.	
20	Nearest Forest	:	Protected forest, Approx. 1.30 km. in ENE direction	

			Protected forest, Approx. 1.50 km. in ENE direction Protected forest, Approx. 2.70 km. in SSW direction
21	Road & Highways	:	NH-139, Approx. 3.56 km. in West direction.

CO-ORDINATES

1	Latitude	:	From 24°22'13.383"N	To 24°22'17.514"N
2	Longitude	:	From 84°14'13.677"E	To 84°14'18.613"E

LAND DETAILS

Khata no.	Plot no.
47	34 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Palamau, Medininagar vide letter no. 156/M, dated 28.01.2025.
2	CO	:	The CO, Chhatarpur, Palamau vide letter no. 613, dated 31.08.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Palamau, Medininagar vide memo no. 201/M, dated 07.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no. 266, dated 08.04.2025 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Territorial	:	Divisional Forest Officer, Medininagar Forest Division vide letter no. 1643, dated 01.06.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Palamau, Medinagar has been certified vide memo no. 1061/M, dated 09.05.2025 that this project is mentioned in approved DSR of Palamau District as a potential village (Page no. 115).
7	Gram Sabha	:	BDO, Chhatarpur, Palamau vide letter no. 930, dated 30.11.2024

			informed that Gram Sabha conducted on 07.10.2024.
8	Mine Plan Approval	:	Approved by Assistant Director, Geology District Geological Officer, Palamau vide Memo No. 60, dated 19.03.2025.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	1.25 Ha. or 3.10Acre	Life of Mine –05 years
3	Waste Generation	:	Total 7040 cum gritty soil & Morrum and 10258 cum intercalated waste will be generated during the plan period.	
4	Stripping Ratio	:	1: 0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	257 AMSL to 253 AMSL	
8	Ground Level Elevation	:	253 AMSL	
9	Ultimate Working Depth	:	215 AMSL (38 m BGL)	
10	Water Table	:	199-205 AMSL (48-54 m BGL)	
11	Topography of Mine	:	Area represents a gently sloping land with rock mass of Granite-gneiss	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	90 litre/day	

Production Details

Year	Removal of gritty soil & Morrum		Intercalated waste	Production of stone		Bench AMSL
	in cum	in tonnes	in cum	in cum	in tonnes	
1st	5840	8760	2050	38949	109057	257-245
2nd	1200	1800	2052	38980	109145	257-245
3rd	000	000	2051	38977	109134	251-239
4th	000	000	2053	39003	109209	245-227
5th	000	000	2052	38980	109145	233-215
Total	**7040**	**10560**	**10258**	**194889**	**545690**	

Land Use

Category	Present Land Use (in Ha)	At The End Of Plan Period (In Ha.)	At the end of mine (in Ha.)	Conceptual period (in Ha.)		
				backfill	Water body	plantation
Quarry	0.23 (Earth Cutting Area with water Logged)	0.93 (including backfill 0.19 Ha)	0.93 (including backfill 0.19Ha)	--	0.93	
Safety Zone	Nil	0.32 (Plantation)	0.32 (Plantation)	--	--	0.32
Road	0.02	Nil	Nil	--	--	--
Total area in use	**0.25**	**1.25**	**1.25**	**--**	**0.93**	**0.32**
Balanced Unused Area	1.0	0.0	Nil	--	--	--
Total Lease area	**1.25**	**1.25**	**1.25**	**1.25**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.32 ha	800
2	Along Approach Road	:	700 m	1400
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	11,50,000	1,00,000
4	Construction and maintenance of haul road	3,50,000	1,50,000
TOTAL		**15,00,000**	**4,87,000**

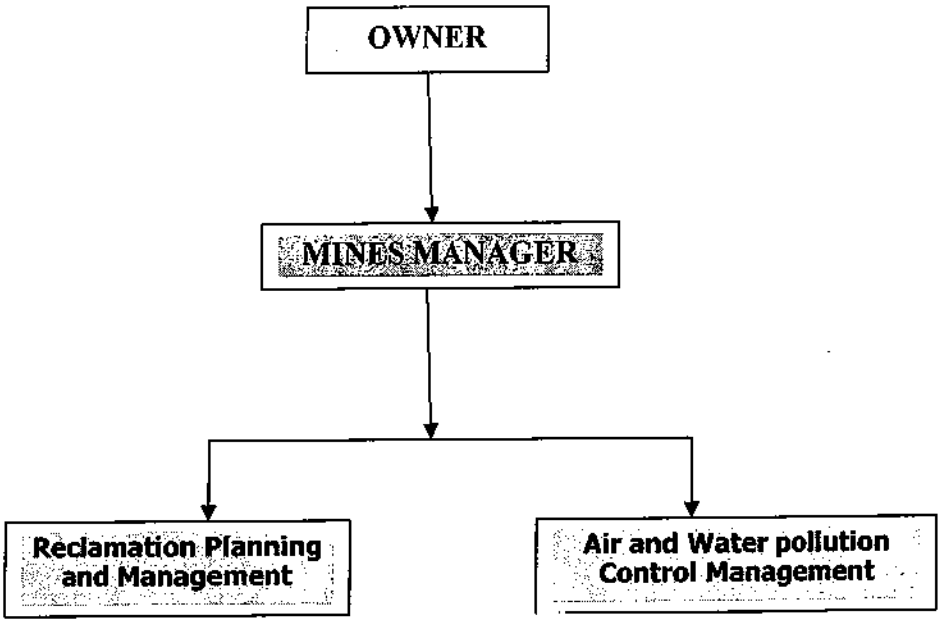
Note: *2300 plants * 500 Rs (for each plants including hedges and fences) = 11.50 Lakh
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/- (including maintenance material)
**** 5.0 lakh per kilometer (500000 * 0.70 km haul road = 3,50,000 /-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 7040 cum gritty soil & Morrum and 10258 cum intercalated waste will be generated during the plan period. The area is covered with a layer of gritty soil & Morrum. During quarry development in 1st year gritty soil, morrum and intercalated waste will be removed and this soil, morrum & waste will be temporarily dumped [Area - 0.158 Ha, (LWH = 47mx 34m * 5m)] within the quarry & in 2nd year gritty soil, morrum and intercalated waste will be removed and this soil, morrum, waste & existing temporary dumped materials will be temporarily dumped [Area - 0.222 Ha, (LWH = 68m * 34m * 5m)] within the quarry & in 3rd year removed intercalated waste & existing temporarily dumped materials will be temporarily dumped [Area - 0.264 Ha, (L* W* H= 71m * 37m * 5m)] within the quarry & in 4th year removed intercalated waste and existing temporarily dumped material will be temporarily dumped [Area - 0.241 Ha, (L x W x H = 73m * 33m * 5m) & Area - 0.063 Ha, (LWH = 39m * 16m * 5m)] within the quarry, in 5th year removed intercalated waste & existing temporarily dumped materials will be backfill within the exhausted quarry.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
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C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1	5	4	3	2	1

(Catastrophic)					
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
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3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.

- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only

affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)

- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Munkeri Stone Deposit of M/s Jay Bajrang Enterprises (Partners : Shri Sachidanand & Shri Akshay Anand), Mauza : Munkeri, Thana : Chhatarpur, Distt. : Palamau, Jharkhand (1.25 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and

the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPFs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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7. **Puregara Stone Deposit of M/s Kalpataru Stone Works (Partners : (i) Shri Sanjay Pathak (ii) Shri Gautam Narayan Pandey (iii) Shri Prem Chaudhary (iv) Shri Shiv Kumar), Mauza : Puregara, Thana : Ranka, Distt. : Garhwa, Jharkhand (2.40 Ha).**

(Proposal no.: SIA/JH/MIN/ 534510 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: **Proposed Capacity-**

Morrum	19226 cum	30762 TPA
Stone	53720 cum	150417 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Puregara Morrum & Stone Deposit	
2	Lessee:	:	M/s Kalpataru Stone Works Partner 1: Sri Sanjay Kumar Pathak Partner 2) Sri Gautam Narayan Pandey Pandey , Partner 3) Sri Prem Chaudhary Partner, Partner 4) Sri Shiv Kumar VS	
3	Lease Address	:	Mouza – Puregara, Thana – Ranka, District – Garhwa, State - Jharkhand	
4	Lease Area	:	2.40 ha.	Acres- 5.94Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 11.70 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	37558 cum (Morrum), 311000 cum (Stone)	60093 tonnes (Morrum), 870798 tonnes (Stone)
10	Mine Life	:	6 years	
11	Man power	:	40	
12	Water Requirement	:	8.40 ~ 8.50 KLD (Drinking: 0.40 KLD, Dust Suppression: 4.12 KLD, Plantation: 3.88 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Lilbatwa Nadi, Approx 0.58 km towards North direction of mine site. Hathu Nadi, Approx 2.88 km towards ESE direction of mine site.	
17	Nearest Habitation	:	Puregara, Approx. 0.70 km towards west direction.	
18	Nearest Railway Station	:	Garhwa Railway station, approx. 25.60km towards North direction.	
19	Nearest Airport	:	Birsa Munda Airport, approx. 167.0 km towards ESE direction.	
20	Nearest Forest	:	Siswa Protected Forest, Approx 1.85 km towards ESE direction of mine site. Protected Forest, Approx 6.64 km towards NE direction of mine site.	

21	Road & Highways	:	NH- 343, Approx 7.22 km. in West direction.

CO-ORDINATES

1	Latitude	:	From 23°56'38.15218" N	To 23°56'42.98208" N
2	Longitude	:	From 83°49'51.85909" E	To 83°50'00.58380" E

LAND DETAILS

Khata no.	Plot no.
26	976, 978 (P) & 979

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Garhwa vide letter no. 186/M, dated 12.03.2024.
2	CO	:	The CO, Ranka vide letter no. 170, dated 11.04.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Garhwa vide memo no. 146/M, dated 25.01.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	Deputy Director, Palamau Tiger Project, South Division, Medininagar vide letter no. 374, dated 08.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Palamau Tiger Reserve.
5	DFO Territorial	:	Divisional Forest Officer, Garhwa South Forest Division vide letter no. 1512, dated 23.08.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Garhwa District (Page no. 79, Sl. No. 01).
7	Gram Sabha	:	BDO, Ranka vide letter no. 683, dated 08.08.2023 informed that Gram Sabha conducted on 08.08.2023.
8	Mine Plan Approval	:	Approved by AMO, Garhwa vide Letter No. 493, dated 21.06.2024.

9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast mechanized method.	
2	Quarry Area	:	2.40 Ha. or 5.94Acre	Life of Mine –6 years
3	Waste Generation	:	Total 14132 cum waste shall be generated during the plan period.	
4	Stripping Ratio	:	1: 0.04	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	321 AMSL to317 AMSL	
8	Ground Level Elevation	:	317 AMSL	
9	Ultimate Working Depth	:	273 AMSL (44 m BGL)	
10	Water Table	:	266-257AMSL (51-60 m BGL)	
11	Topography of Mine	:	The Area represent Gently Sloping land	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of Stone		Production of Morrum		Intercalated Waste	Bench RL	
	In cum	In Tonnes	In cum	In tonnes	In cum	Stone	Morrum
1st	53689	150330	19226	30762	2826	321-309	321-315
2nd	53720	150417	8030	12848	2827	321-303	321-315
3rd	53689	150330	4366	6986	2826	321-303	110-104
4th	53720	150417	000	000	2827	309-297	-
5th	53689	150330	5928	9485	2826	321-291	110-104
Total	**268507**	**751824**	**37550**	**60081**	**14132**	-	-

Land Use

Type of Land Use	Present Land Use in (Ha.)	At the End of Plan Period (In Ha)	At the End of mine (In Ha)	Conceptual Period (In Ha)		
				Public Use	Water body	Plantation
Quarry	0.010 (earth cutting area)	1.840 (Including backfilling 0.40 Ha & Stone pitching	1.840 (Including backfilling 0.22Ha.)	--	1.84	--

		wall 0.006 Ha.)				
Greenbelt (Plantation) within Safety Barrier	NIL	0.560	0.560	--	--	0.56
Road	0.043	NIL	NIL	--	--	--
Total Area in Use	**0.053**	**2.40**	**2.40**	**--**	**1.84**	**0.56**
Balanced Area unused	2.347	NIL	NIL	--	--	--
Total Applied Area	**2.400**					

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.56 ha	1400
2	Along Approach Road	:	220 m	440
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000

2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	9,70,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**11,70,000**	**4,87,000**

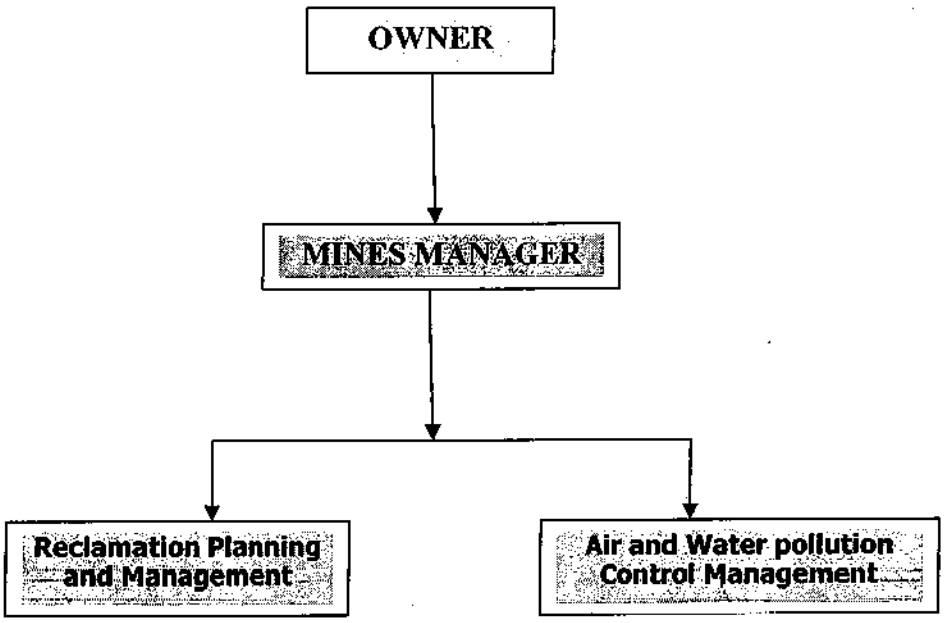
Note: * 1940 plants * 500 Rs (for each plants including hedges and fences) = 9,70,000 lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/ -~150000 (including maintenance)

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total intercalated waste 14132 cum waste shall be generated during this plan period. During quarry development in 1st 2nd, 3rd & 5th year morrum will be removed and this will be used for road construction & sell directly in local market as morrum and in 1st, 2nd, 3rd year removed intercalated waste will be will be temporarily dumped [Area - 0.057 Ha, (L x W x H = 36m x 16m x 5m), Area – 0.057 Ha, (L x W x H = 36m x 16m x Sm), Area - 0.057 Ha, (L x W x H = 30m x 19m x 5m)] , at the north-east part of the area with suitable precautions like parapet wall, garland drain & in 4th year removed intercalated waste & existing temporarily dumped waste will be temporarily backfilled within the exhausted quarry & in 5th year removed intercalated waste will be temporarily backfilled within the exhausted quarry. In conceptual period removed intercalated waste & plan period total temporarily backfill waste will be backfilled within lower three bench of the exhausted quarry.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1	5	4	3	2	1

(Catastrophic)					
C2 (Major)	10	8	6	**4**	**2**
C3 (Moderate)	*15*	12	9	6	**3**
C4 (Minor)	*20*	*16*	12	8	**4**
C5 (Insignificant)	*25*	*20*	*15*	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

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- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.

- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Puregara Stone Deposit of M/s Kalpataru Stone Works (Partners : (i) Shri Sanjay Pathak (ii) Shri Gautam Narayan Pandey (iii) Shri Prem Chaudhary (iv) Shri Shiv Kumar), Mauza : Puregara, Thana : Ranka, Distt. : Garhwa, Jharkhand (2.40 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines

owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

8. **Madhabpur Brick Clay Deposit of M/s BLG Bricks (Prop. : Shri Shyam Krishna Mahato), Mauza : Madhabpur, P.S. : Boram, Distt. : East Singhbhum, Jharkhand (1.55 Ha).**

(Proposal no.: SIA/JH/MIN/ 530538 /2025)

The plot numbers mentioned in the application are 2150 and 2151. The project is mentioned in the DSR on page no. 33 Sl. No. 24 where only plot no. 2150 is mentioned.

Hence, the project authorities are required to obtained clarification / certificate regarding plot no. 2151 which is not mentioned in the DSR.

The project will be taken up for consideration after submission of the above.

****

9. **Dubrajpur Stone Deposit of M/s Shivam Stone Mining (Partner : Shri Santosh Mehta & Shri Pradeep Mishra), Village : Dubrajpur, Anchal : Topchanchi, Distt. : Dhanbad, Jharkhand (2.04 Ha).**

(Proposal no.: SIA/JH/MIN/ 535961 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 53587.60 cum/annum or 144686.52 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Dubrajpur Stone Deposit	
2	Lessee:	:	M/s Shivam Stone Mining Partner- Sri Santosh Mehta & Sri Pradeep Mishra	
3	Lease Address	:	Village – Dubrajpur, Anchal - Topchanchi, District – Dhanbad, State - Jharkhand	
4	Lease Area	:	2.04 ha.	Acres-5.05 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 14.125 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	535420cum	1445634.00 tones
10	Mine Life	:	10 years	
11	Man power	:	21	
12	Water Requirement	:	10.31 ~ 10.50 KLD (Drinking: 0.21 KLD, Dust Suppression: 5.45 KLD, Plantation: 4.65 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Jamuiya Nadi, Approx. 3.90 km towards SW direction of mine site.	
17	Nearest Habitation	:	approx. 680 meters West direction of mine site	
18	Nearest Railway Station	:	Gomoh Junction, approx. 4.10 km towards South direction	
19	Nearest Airport	:	Deoghar Airport, approx. 81.80 km towards NE direction	
20	Nearest Forest	:	Protected Forest - Approx. 0.28 km towards South direction of mine site. Protected Forest - Approx. 1.0 km towards SE direction of mine site. Parasnath Protected Forest, Approx. 2.69 km towards North direction of mine site.	

21	Road & Highways	:	NH - 19, Approx. 0.85 km towards North direction

CO-ORDINATES

1	Latitude	:	From 23° 54' 30.15" N	To 230 54' 34.79" N
2	Longitude	:	From 86° 08' 58.40" N	To 86° 09' 07.63" E

LAND DETAILS

Khata no.	Plot no.
29, 01, 25 & 10	3, 4, 5, 6, 7, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32(P), 54, 55, 56 & 132

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dhanbad vide letter no. 503/M, dated 29.03.2025.
2	CO	:	The CO, Topchanchi (Dhanbad) vide letter no. 349, dated 23.06.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dhanbad vide memo no. 522/M, dated 03.04.2025 certified that 01 other mining lease area (7.00 Acre) exists within 500 meters radius from proposed project site and total area is 12.05 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 101, dated 20.01.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dhanbad Forest Division vide letter no. 1856, dated 03.07.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Dhanbad District (Sl. no. 04, Page no. 60).
7	Gram Sabha	:	Gram Sabha conducted on 28.06.2023.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dhanbad vide Memo No. 618/M, dated 29.04.2025.
9	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Method	
2	Quarry Area	:	2.04 Ha. or 5.05 Acre	Life of Mine – 10 Years
3	Waste Generation	:	Total 30362.00 cum waste generated in plan period	
4	Stripping Ratio	:	1: 0.04	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	260 AMSL to 263 AMSL	
8	Ground Level Elevation	:	260 AMSL	
9	Ultimate Working Depth	:	227 AMSL (33 m bgl)	
10	Water Table	:	215 -217AMSL (43-45 m bgl)	
11	Topography of Mine	:	Area represents an undulating topography.	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	150 litre/day	

Production Details Bench AMSL

Year	Production of stone in Cum	Production of stone in Tonnes	Waste (cum) in plan period	Waste (cum) in ultimate	Bench AMSL
1st	48925.00	132097.50	(2575+13400) =15975.00	15118.00	262-257
2nd	53587.60	144686.52	2820.40		257-251
3rd	51816.80	139905.36	2727.20		257-245
4th	50988.40	137668.68	2683.60		251-233
5th	50460.20	136242.54	(2655.80+3500) =6155.80		263-227
Total	255778.00	690600.60	30362.00	15118.00	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Quarry	0.0	1.18	1.55 (0.12 ha backfilling & 0.72 ha area will be converted into Rain water harvesting)
Road	0.0	Comes under quarry	Comes under quarry
Safety Zone (Plantation)	0.0	0.49 (Plantation)	0.49 (Plantation)
Total	0.0	1.67	2.04
Unused Area	2.56	0.37	0.00
Total Lease Area	**2.04**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.49 ha	1225
2	Along Approach Road	:	500 m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	14,000 8,000 8,000 7,000
3	Plantation	11,62,500	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
TOTAL		**14,12,500**	**4,87,000**

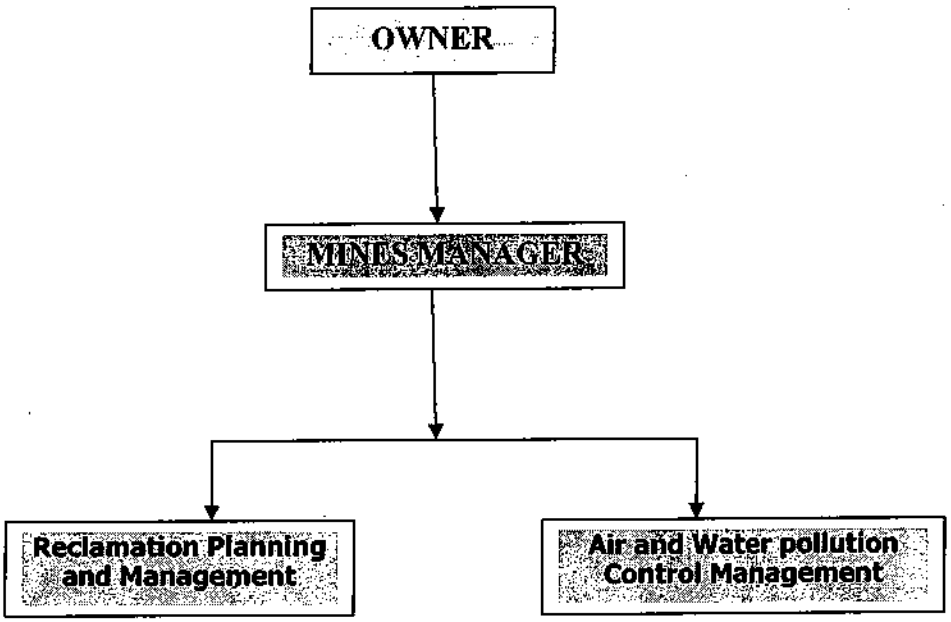
Note: *2325 plants * 500 Rs (for each plants including hedges and fences) = 11.625 lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300*300 = 90,000/- or 1,50,000/-
**** 5.0 lakh per kilometer (500000 * 0.50 km haul road = 2,50,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 30362.00 cum waste generated in plan period. 8231.20 cum waste out of 30362.00 used for village & haul road maintenance and rest 22130.80 cum waste backfilled into exhausted quarry and 15118.00 cum waste in ultimate stage which will be backfilled.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.

- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.

C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock	Occasional	Major	6

		(Bodily Injury)			
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the

face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.
While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

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Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.
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- Time pressure
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- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.

- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Dubrajpur Stone Deposit of M/s Shivam Stone Mining (Partner : Shri Santosh Mehta & Shri Pradeep Mishra), Village : Dubrajpur, Anchal : Topchanchi, Distt. : Dhanbad, Jharkhand (2.04 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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10. Tilabani Stone Deposit of Shri Azad Ansari, Village : Tilabani, Anchal : Govindpur, Distt. : Dhanbad, Jharkhand (2.027 Ha).

(Proposal no.: SIA/JH/MIN/ 535894 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity- 42940 cum/annum or 115938 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Tilabani Stone Deposit	
2	Lessee:	:	Azad Ansari	
3	Lease Address	:	Village – Tilabani, Anchal- Govindpur, District – Dhanbad, State - Jharkhand	
4	Lease Area	:	2.027 ha.	Acres-5.009 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 90.0 Lakhs	
7	EMP Budget	:	Capital: Rs. 11.725 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New	
9	Mineable Reserves	:	415122.22cum	1120830 tonnes
10	Mine Life	:	10 years	
11	Man power	:	15	
12	Water Requirement	:	8.69 ~ 9.0 KLD (Drinking: 0.15 KLD, Dust Suppression: 4.49 KLD, Plantation: 4.05 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Khudia River, approx. 0.13 km towards SW direction of mine site	
17	Nearest Habitation	:	~~approx. 300 meters~~ SSE direction of mine site	
18	Nearest Railway Station	:	Chhota ambana Railway station, approx. 8.23 km towards SSW direction.	
19	Nearest Airport	:	Deoghar Airport, approx. 68.70 km towards North direction	
20	Nearest Forest	:	Protected Forest - Approx. 4.75 km towards NNE direction of mine site. Protected Forest - Approx. 4.00 km towards South direction of mine site.	
21	Road & Highways	:	NH - 19, Approx. 2.65 km towards SSW direction	

CO-ORDINATES

1	Latitude	:	From 23° 49' 40.94" N	To 23° 49'45.68" N
2	Longitude	:	From 86° 36' 29.29" N	To 86° 36' 37.74" E

LAND DETAILS

Plot no.
629 (P), 802 (P), 612 (P) & 630 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Dhanbad vide letter no. 152/M, dated 05.02.2025.
2	CO	:	The CO, Govindpur (Dhanbad) vide letter no. 81, dated 22.01.2025 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Dhanbad vide memo no. 228/M, dated 19.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2412, dated 03.12.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Dhanbad Forest Division vide letter no. 3150, dated 13.12.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The DMO, Dhanbad has been certified vide memo no. 637/M, dated 30.04.2025 that this project is mentioned in approved DSR of Dhanbad District as a potential area (Page no. 165, Sl. No. 136).
7	Gram Sabha	:	Gram Sabha conducted on 19.01.2025.
8	Mine Plan Approval	:	Approved by District Mining Officer, Dhanbad vide Memo No. 606/M, dated 19.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast Semi-Mechanized Method

2	Quarry Area	:	2.027 Ha. or 5.009 Acre	Life of Mine – 10 Years
3	Waste Generation	:	Total waste 47245 cum, 10859 cum intercalated waste 36386 cum overburden waste generated during the plan period.	
4	Stripping Ratio	:	1: 0.36	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	191 AMSL to 199 AMSL	
8	Ground Level Elevation	:	191 AMSL	
9	Ultimate Working Depth	:	148 AMSL (43 m bgl)	
10	Water Table	:	140-137 AMSL (51-54 m bgl)	
11	Topography of Mine	:	Area represents a small hillock.	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of stone in cum	Production of stone in tonnes	Overburden waste in cum	Intercalated waste in cum	Waste in cum	Bench AMSL
1st Year	40042	108112	36386	2107	38493	184-196
2nd Year	40578	109561	0	2136	2136	184
3rd Year	41115	111011	0	2164	2164	184-178
4th Year	41652	112460	0	2192	2192	178-172
5th Year	42940	115938	0	2260	2260	172-166
Total	206327	557082	36386	10859	47245	

Land Use

Land Utilization	Existing Land use (Ha.)	At the end of plan period (Ha)	At Conceptual period (Ha)
Excavation	0.0	1.033	1.513 (Entire area shall be left as water reservoir for rain water harvesting)
Waste dump	0.0	0.455	0.0
Road	0.0	0.002	0.0
Infrastructure (crusher)	0.0	0.0	0.0
Safety Zone (Plantation)	0.	0.514	0.514

Total	0.	2.004	2.027
Unused Area	2.027	0.023	0.00
Total Lease Area	**2.027**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.514 ha	1285
2	Along Approach Road	:	320 m	640
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	10,12,500	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**12,12,500**	**4,87,000**

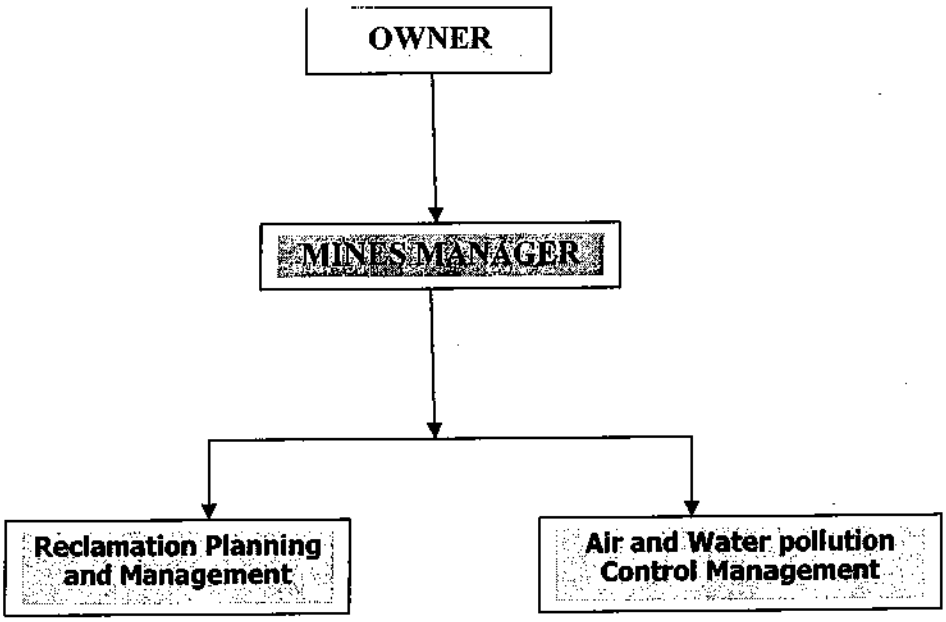
Note: *2025 plants * 500 Rs (for each plants including hedges and fences) = 10.125 lakhs
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300*300 = 90,000/- or 1,50,000/-

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

It has been calculated that total waste 47245 cum, 10859 cum intercalated waste 36386 cum overburden waste generated during the plan period, which shall be used in making and maintenance of haul road and village road, so there is no requirement of waste dumping Plan for this mining plan period.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be

constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.

C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.
Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.

- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Tilabani Stone Deposit of Shri Azad Ansari, Village : Tilabani, Anchal : Govindpur, Distt. : Dhanbad, Jharkhand (2.027 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

11. Joddiha Stone Mine of Md. Mustafa Ansari, Village : Joddiha, Thana : Saraikela, Distt. : Saraikela-Kharsawan, Jharkhand (3.328 Ha).

(Proposal no.: SIA/JH/MIN/ 516765 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Saraikela-Kharsawan).

The project has been granted EC by DEIAA, Saraikela-Kharsawan vide letter no. EC/DEIAA/Saraikela/2016-17/33/DEIAA, dated 17.10.2016.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Saraikela-Kharsawan which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 47/M dated 09.01.2025 by DMO, Saraikela-Kharsawan is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide memo no. 912, dated 26.03.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 156294.07 cum/annum or 4,21,994 TPA

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Joddiha Stone Mine

2	Lessee:	:	Md. Mustafa Ansari	
3	Lease Address	:	Village - Joddiha, Thana - Saraikela, District – Saraikela-Kharsawan State- Jharkhand	
4	Lease Area	:	3.328 ha	Acres- 8.22 Acres
5	Type of Land	:	Non-Forest (Pvt. Raity Land)	
6	Project Cost	:	Rs. 1.30 cr.	
7	EMP Budget	:	Capital: Rs. 9.50 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	2449089 tons	907070 cum
10	Mine Life	:	Up to the lease period i.e. 13.08.2017 to 12.08.2027.	
11	Man power	:	55	
12	Water Requirement	:	7.135 ~ 7.50 KLD (Drinking: 0.55 KLD, Dust Suppression: 3.985 KLD, Plantation: 2.60 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Kharkai River, Approx. 1.64 km towards West direction of mine site.	
17	Nearest Habitation	:	joddiha, ~~Approx. 0.49 km~~ in NW direction	
18	Nearest Railway Station	:	Rajkharsawan Junction Railway station, approx. 12.80 km towards NW direction.	
19	Nearest Air Port	:	Birsa Munda Airport Ranchi, approx. 94.00 km towards NW direction.	
20	Nearest Forest	:	Open mixed jungle, Approx. 2.0 km towards West direction of mine site. Open mixed jungle, Approx. 3.30 km towards West direction of mine site.	
21	Road & Highways	:	NH-43, Approx. 2.07 km. in NW direction. NH-220, Approx. 8.00 km in SE direction.	

CO-ORDINATES

1	Latitude	:	From 22°39'52.48" N	To 22°39'51.72" N
2	Longitude	:	From 85°54'38.82" E	To 85°54'38.55" E

LAND DETAILS

Khata no.	Plot no.
265	509 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease Deed- 13.08.2017 to 12.08.2027.
2	CO	:	The CO, Saraikela vide letter no. 312/A, dated 04.06.2014 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO	:	DMO, Saraikela-Kharsawan vide letter no. 48/M, dated 09.01.2025 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 572, dated 15.04.2024 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Saraikela Forest Division vide letter no. 1133, dated 07.08.2014 certified that the distance of notified forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Saraikela-Kharsawan District (Sl. no. 03, Page no. 91).
7	Gram Sabha	:	Gram Sabha conducted on 30.01.2015.
8	Mining Scheme / Plan Approval	:	Mining scheme approved by Additional Director, Geology, Hazaribag vide letter no. 417/G, dated 13.02.2021.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Saraikela-Kharsawan vide letter no. EC/DEIAA/Saraikela/2016-17/33/DEIAA, dated 17.10.2016.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide memo no. 912, dated 26.03.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-1976822 /2018 /106, dated 23.01.2018.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. JSPCB/RO/JSR/CTO-17939577 /2024/44, dated 26.06.2024.
13	Production Report	:	Production report issued by DMO, Saraikela-Kharsawan vide memo no. 47/M dated 09.01.2025.
14	Qualified Person	:	The mining scheme has been prepared by Shri B. Tirkey. As he has since deceased, he was not present in the meeting

Working Details

1	Mining Method	:	Opencast Semi mechanized mining method	
2	Quarry Area	:	3.328 ha or 8.22 Acres	Life of Mine – Up to the lease period i.e. 13.08.2017 to 12.08.2027.
3	Waste Generation	:	25107 Tons	
4	Stripping Ratio	:	1:0.01	
5	Working Days	:	300	
6	Benches: size & No	:	5m x 5m	
7	Elevation of Mine	:	190 AMSL to 215 AMSL	
8	Ground Level Elevation	:	190 AMSL	
9	Ultimate Working Depth	:	160 AMSL (25 mbgl)	
10	Water Table	:	138-135 AMSL (55-52 mbgl)	
11	Topography of Mine	:	The lease area represents adulatory land with rock mass of Dolerite.	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of Stone in Tons as per DEIAA EC Letter	Production of Stone in Tons	Production of Stone in Cum	Overburden in Tons	Bench Section
1st	418433	406733	150641.85	25107	214-205
2nd	419226	451926	167380.00	Nil	205-195
3rd	419639	464670	172100.00	Nil	195-185
4th	421994	393835	145864.81	Nil	190-175
5th	421994	392972	145545.18	Nil	180-165
Total	**2101286**	**2110136**	**781531.84**	**25107**	

As per approved mine plan production: - 172100 cum/annum or 464670 TPA
As per EC letter production: - 156294.07 cum/annum or 421994 TPA

Land Use

Pattern of Utilization	Present/existing Land Use (in acres)	Proposed Land use for current plan period (in acre)	Land used at conceptual stage i.e. end of mine life (in acres)
Mining Activities	0.202	2.213	2.213 (Entire area shall be converted

			into water reservoir)
Safety Zone	0.797 (Plantation)	0.797 (Plantation)	0.797 (Plantation)
Office	0.008	0.008	0.008
Mine road etc./Dump Yard	0.008	0.040	0.040
Unutilized	2.313	0.270	0.270
Total Lease area	**3.328**	**3.328**	**3.328**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.797 ha	1995 (Already done during previous year of mining)
2	Along Approach Road	:	600 m	1200
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note: A total of 3295 saplings were proposed to be planted. Out of which 1995 plant in Safety Zone area have been planted during previous year of mining.
(1200 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1300 Plants)

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	6,50,000	1,00,000

4	Construction and maintenance of haul road	3,00,000	1,50,000
TOTAL		**9,50,000**	**4,87,000**

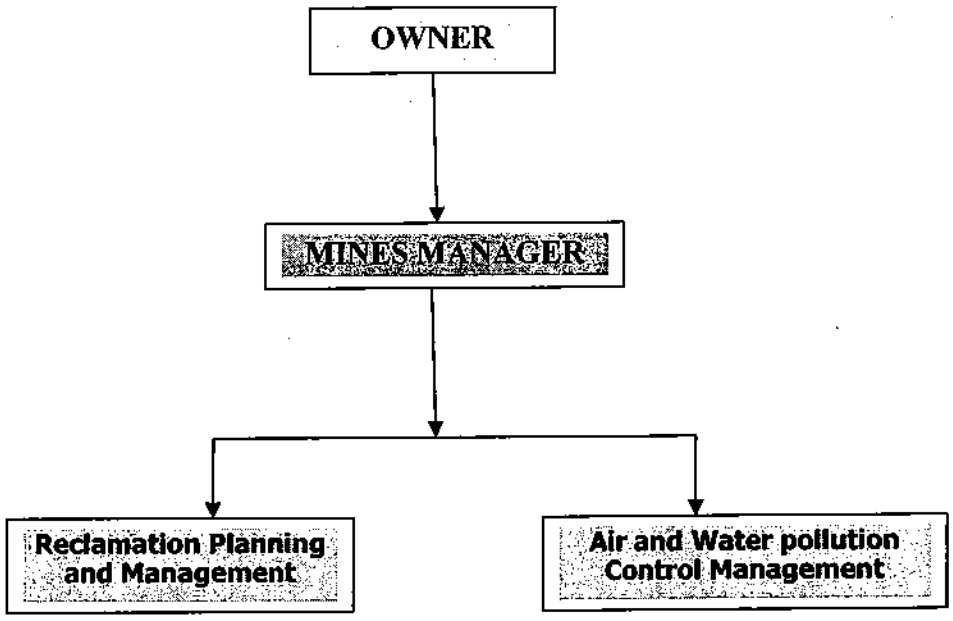
Note: *1300 plants * 500 Rs (for each plants including hedges and fences) = 6.50 Lakh
A total of 3295 saplings were proposed to be planted. Out of which 1995 plant in Safety Zone area have been planted during previous year of mining.
(1200 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total : 1300 Plants)
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/-(including maintenance)
**** 5.0 lakh per kilometer (500000 * 0.60 km haul road = 3,00,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 25107 Tons waste will be generated during plan period and the waste which is going to be generated during this scheme period will be used for reclamation of the worked out pit.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one

		within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.

- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Joddiha Stone Mine of Md. Mustafa Ansari, Village :

Joddiha, Thana : Saraikela, Distt. : Saraikela-Kharsawan, Jharkhand (3.328 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLIFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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12. Baliasai Stone Mine of M/s Triveni Engicons Pvt. Ltd. (Director : Shri Anand Dodrajka), Village : Baliasai, Thana : Rajnagar, Distt. : Saraikela-Kharsawan, Jharkhand (3.654 Ha).

(Proposal no.: SIA/JH/MIN/ 526386 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

Project Sector: 1(a) Mining of Minerals, Category: B2.

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As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Saraikela-Kharsawan which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per letter no. 436/M dated 18.05.2024 by DMO, Saraikela-Kharsawan is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide memo no. 1284, dated 08.05.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 27999.96 cum/annum or 69999.89 TPA.

<u>Project and Location Details:</u>

Sl	Parameter		Details
1	Project Name	:	Baliasai Stone Mine

2	Lessee:	:	M/s Triveni Engicons Pvt. Ltd Director - Shri Anand Dodrajka.	
3	Lease Address	:	Village – Baliasai, Thana – Rajnagar, District –Saraikela-kharsawan, State- Jharkhand	
4	Lease Area	:	3.654 ha	Acres- 9.03 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 1.30 cr.	
7	EMP Budget	:	Capital: Rs. 11.55 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	366339.00 tons	146535.6 cum
10	Mine Life	:	Up to the lease period i.e. 16.12.2016 to 15.12.2026.	
11	Man power	:	20	
12	Water Requirement	:	13.24 ~ 13.50 KLD (Drinking: 0.20 KLD, Dust Suppression: 10.16 KLD, Plantation: 2.88 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Garra River, Approx. 6.04 km towards NE direction of mine site.	
17	Nearest Habitation	:	Baliasai village, ~~Approx. 0.37 km~~ in SSW direction	
18	Nearest Railway Station	:	Haludpukur Railway Station, approx. 11.00 km towards ESE direction.	
19	Nearest Air Port	:	Birsa Munda Airport, Ranchi, approx. 105.30 km towards NW direction.	
20	Nearest Forest	:	Open mixed Jungle, Approx. 4.40 km towards SSW direction of mine site.	
21	Road & Highways	:	NH-220, Approx. 0.70 km. in South direction	

CO-ORDINATES

1	Latitude	:	From 22°38'09.07834 " N	To 22°38'26.09502" N
2	Longitude	:	From 86°02'35.93722" E	To 86°02'47.22534" E

LAND DETAILS

Khata no.	Plot no.
72	74 & 76

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease Deed- 16.12.2016 to 15.12.2026.

2	CO	:	The CO, Rajnagar vide letter no. 429, dated 03.06.2016 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Saraikela-Kharsawan vide letter no. 91/M, dated 20.01.2025 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 446, dated 21.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Saraikela Forest Division vide letter no. 1174, dated 27.06.2023 certified that the distance of notified forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Saraikela-Kharsawan District (Sl. no. 10).
7	Gram Sabha	:	Gram Sabha conducted on 13.05.2016.
8	Mining Plan Approval	:	i. Mining scheme approved by Additional Director, Geology, Hazaribag vide memo no. 344/G dated 28.10.2022. ii. Modification mine plan approved by DMO, Saraikella-Kharsawan vide letter no. 470, dated 28.05.2024. iii. Modification mine plan approved by DMO, Saraikella-Kharsawan vide letter no. 1281, dated 31.12.2024.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Saraikela-Kharsawan vide letter no. EC/DEIAA/Saraikela/2016-17/29/DEIAA, dated 17.10.2016.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide memo no. 1284, dated 08.05.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-1300822 /2017 /299, dated 23.06.2017.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. JSPCB/HO/RNC/CTO-20755066 /2024/2001, dated 26.12.2024.
13	Production Report	:	Production report issued by DMO, Saraikela-Kharsawan vide letter no. 436/M dated 18.05.2024.
14	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the modification mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized Mining method	
2	Quarry Area	:	3.654 ha or 9.03 Acres	Life of Mine – up to the lease period i.e. 16.12.2016 to 15.12.2026.
3	Waste Generation	:	Total 2946.18 cum or 7365.45 tons of waste will be generated during the plan period	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	192 AMSL to 202 AMSL	
8	Ground Level Elevation	:	192 AMSL	
9	Ultimate Working Depth	:	176 AMSL (16 mbgl)	
10	Water Table	:	170 AMSL (22 mbgl)	
11	Topography of Mine	:	Area represents hillock	
12	Explosive Requirement	:	110 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Proposed Production of Stone in Cum	Proposed Production of Stone in Tons	Total waste in Cum	Bench Section
1st	27999.95	69999.87	1473.68	193-176
2nd	27977.50	69943.75	1472.50	200-176
Total	**55977.45**	**139943.62**	**2946.18**	

Year	Proposed Production of EC in Tons
1st	69999.86
2nd	69998.97
3rd	69999.56
4th	69999.89
5th	67153.12
Total	**347151.4**

As per approved mine plan production: - 27999.95 cum/annum or 69999.87 TPA

As per EC letter production: - 27999.96 cum/annum or 69999.89 TPA

Land Use

Category	Present Land Use (in Ha)	At the end of plan period (in Ha)	At the end of Mine (in Ha)
Quarry	0.912	1.132	2.400 (0.355 are backfilled and 2.045 area will converted as water reservoir)
Dump	0.00	0.00	0.00
Road	0.057	0.040	0.020
Safety Barrier	1.234 (Plantation)	1.234 (Plantation)	1.234 (Plantation)
Total area in use	**2.203**	**2.406**	**3.654**
Balanced Unused Area	1.451	1.248	0.00
Total Lease area	**3.654**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	1.234 ha	3085 (Already done during previous year of mining)
2	Along Approach Road	:	670 m	1340
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note: A total of 4525 saplings were proposed to be planted. Out of which 3085 plant in Safety Zone area have been planted during previous year of mining.
(1340 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1440 Plants)

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	7,20,000	1,00,000
4	Construction and maintenance of haul road	3,35,000	1,50,000
TOTAL		**10,55,000**	**4,87,000**

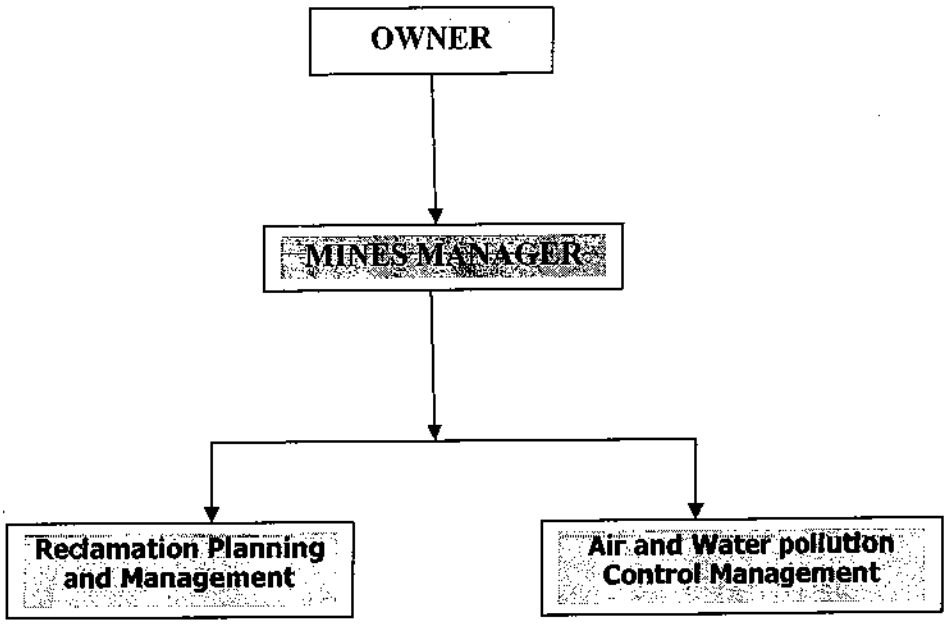
Note: *1440 plants * 500 Rs (for each plants including hedges and fences) = 7.20 Lakhs
A total of 4525 saplings were proposed to be planted. Out of which 3085 plant in Safety Zone area have been planted during previous year of mining.
(1340 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1440 Plants)
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/-(including maintenance)
**** 5.0 lakh per kilometer (500000 * 0.67 km haul road = 3,35,000/-)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 2946.18 cum or 7365.45 tons of waste will be generated during the plan period. During the modified scheme period, all the waste shall be shall be temporarily dump as such no backfill arises.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1	5	**4**	**3**	**2**	**1**

(Catastrophic)					
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.

- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Baliasai Stone Mine of M/s Triveni Engicons Pvt. Ltd. (Director : Shri Anand Dodrajka), Village : Baliasai, Thana : Rajnagar, Distt. : Saraikela-Kharsawan, Jharkhand (3.654 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.
II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

13. Bhandari Sai Quartzite Stone Mine of M/s Balaji Infocom (Prop. : Shri Manish Kumar), Village : Bhandari Sai, Thana : Saraikela, Distt. : Saraikela-Kharsawan, Jharkhand (1.37 Ha).

(Proposal no.: SIA/JH/MIN/ 533094 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Saraikela-Kharsawan).

The project has been granted EC by DEIAA, Saraikela-Kharsawan vide letter no. EC/DEIAA/Saraikela/2016-17/47, dated 21.03.2017.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Saraikela-Kharsawan which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ · All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 1055/M dated 19.10.2024 by DMO, Saraikela-Kharsawan is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide memo no. 1282, dated 08.05.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 24882.96 cum/annum or 67184.00 TPA.

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bhandari Sai Quartzite Stone Mine	
2	Lessee:	:	M/s Balaji Infocom , Proprietor- Sri Manish Kumar At New Green City, Baliguma, Dimna. Thana- Jamshedpur, District - East Singhbhum, State - Jharkhand	
3	Lease Address	:	Mouza - Bhandari Sai , Thana - Saraikela, District – Saraikela Kharsawan, State- Jharkhand	
4	Lease Area	:	1.37 ha	Acres- 3.39 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 1.10Cr.	
7	EMP Budget	:	Capital: Rs. 6.50 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	168066 cum	453778 tons
10	Mine Life	:	Up to the lease period i.e. 18.09.2017 to 17.09.2027.	

11	Man power	:	45
12	Water Requirement	:	3.05 ~ 3.10KLD (Drinking: 0.45 KLD, Dust Suppression: 2.16 KLD, Plantation: 0.44 KLD)
13	Water Source	:	Water will be taken from nearby village
14	DG Set / power	:	500 KVA
15	Crusher	:	No Crusher
16	Nearest Water Body	:	Kharkai River, Approx. 3.63 km towards west direction of mine site.
17	Nearest Habitation	:	Bhandarisai village, ~~Approx. 0.19 km~~ in NNE direction.
18	Nearest Railway Station	:	Mahali Marup Railway station, approx. 11.82 km towards NNW direction.
19	Nearest Air Port	:	Jamshedpur Airport, Jharkhand approx. 30.19 km towards NE direction.
20	Nearest Forest	:	Protected Forest, Approx. 6.77 km towards SW direction of mine site. Protected Forest Approx. 4.92 km towards SSW direction of mine site.
21	Road & Highways	:	NH-43, approx. 3.56 km towards NW direction.

CO-ORDINATES

1	Latitude	:	From 22°39'31.27" N	To 22°39'36.82" N
2	Longitude	:	From 85°55'35.47" E	To 85°55'38.84" E

LAND DETAILS

Khata No.	Plot No.
157	1112,1113
137	1111,1093,1114
90	1092

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease Deed- 18.09.2017 to 17.09.2027.
2	CO	:	The CO,. Saraikela vide letter no. 450, dated 30.05.2016 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Saraikela-Kharsawan vide letter no. 1040/M, dated 14.10.2024 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 268, dated 19.02.2025 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.

5	DFO Territorial	:	Divisional Forest Officer, Saraikela Forest Division vide letter no. 1208, dated 07.06.2016 certified that the distance of notified forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Saraikela-Kharsawan District (Sl. no. 19, Page no. 18.).
7	Gram Sabha	:	Gram Sabha conducted on 30.04.2016.
8	Mining Plan Approval	:	i. Mining plan approved by AMO, Saraikella-Kharsawan vide letter no. 1941, dated 21.07.2016. ii. Mining scheme approved by Additional Director, Geology, Hazaribag vide memo no. 72/G, dated 03.03.2022. iii. Modification of mining scheme approved by DMO, Saraikella-Kharsawan vide letter no. 334/Mining, dated 12.03.2025.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Saraikela-Kharsawan vide letter no. EC/DEIAA/Saraikela/2016-17/47, dated 21.03.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide memo no. 1282, dated 08.05.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-1966918 /2018 /455, dated 28.04.2018.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. JSPCB/HO/RNC/CTO-9777749 /2021/195, dated 04.02.2021.
13	Production Report	:	Production report issued by DMO, Saraikela-Kharsawan vide memo no. 1055/M dated 19.10.2024.
14	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast manual mining method	
2	Quarry Area	:	1.37 ha. or 3.39 Acres	Life of Mine – Up to the lease period i.e. 18.09.2017 to 17.09.2027.
3	Waste Generation	:	Total 3897.00 cum of waste (weathered rock) will be generated during the plan period.	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	

6	Benches: size & No	:	1.5m 1.5m
7	Elevation of Mine	:	220 AMSL to 193 AMSL
8	Ground Level Elevation	:	140AMSL
9	Ultimate Working Depth	:	162 AMSL (31mbgl)
10	Water Table	:	140-145 AMSL (48-53 mbgl)
11	Topography of Mine	:	Area present gently sloppy land of stone .
12	Explosive Requirement	:	100 kg/day
13	Diesel/Fuel requirement	:	130 litre/day

Production Details

Year	Total excavation stone (quartzite)		Total excavation of waste & gritty soil In cum	Bench mRL
	cum	MT		
1st	24723.75	66754.13	1301.25	195-189
2nd	24652.50	66561.75	1297.50	190.5-186
3rd	24666.75	66600.23	1296.25	186-181.5
Total	74043.00	199619.11	3897.00	-

As per EC letter-

Year	Production in MT
1st	66781
2nd	66754
3rd	66780
4th	66731
5th	67184
Total	**334230**

As per approved mine plan production: - 24723.75 cum/annum or 66754.13 TPA.
As per EC letter production: - 24882.96 cum/annum or 67184.00 TPA..

Land Use

Pattern of Utilization	Existing Land Use (in Ha)	At the end of modification to the approved scheme of mining period (in Ha)	At ultimate stage (in Ha)
Excavation	0.88	0.88	1.01 (entire area shall be left as water reservoir)

Dump	-	0.04	-
Road	0.003	0.006	-
Green belt along safety zone	0.00 (Plantation)	0.36 (Plantation)	0.36 (Plantation)
Unused area	**0.487**	**0.084**	-
Total	**1.37**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.36 ha	900 (Already done during previous year of mining)
2	Along Approach Road	:	60 m	120
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note: A total of 1120 saplings were proposed to be planted. Out of which 900 plant in Safety Zone area have been planted during previous year of mining.
(120 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 700 Plants).

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	*Description*	*Capital Cost (Rs.)*	*Recurring Cost (Rs.)*
1	*Pollution Control & Dust Suppression*	--	*2,00,000*
2	*Baseline Monitoring* *i) Air* *ii) Water* *iii) Soil* *iv) Noise*	--	 *14,000* *8,000* *8,000* *7,000*
3	*Plantation*	*4,50,000*	*1,00,000*

4	*Construction and maintenance of haul road*	*2,00,000*	*1,50,000*
TOTAL		***6,50,000***	***4,87,000***

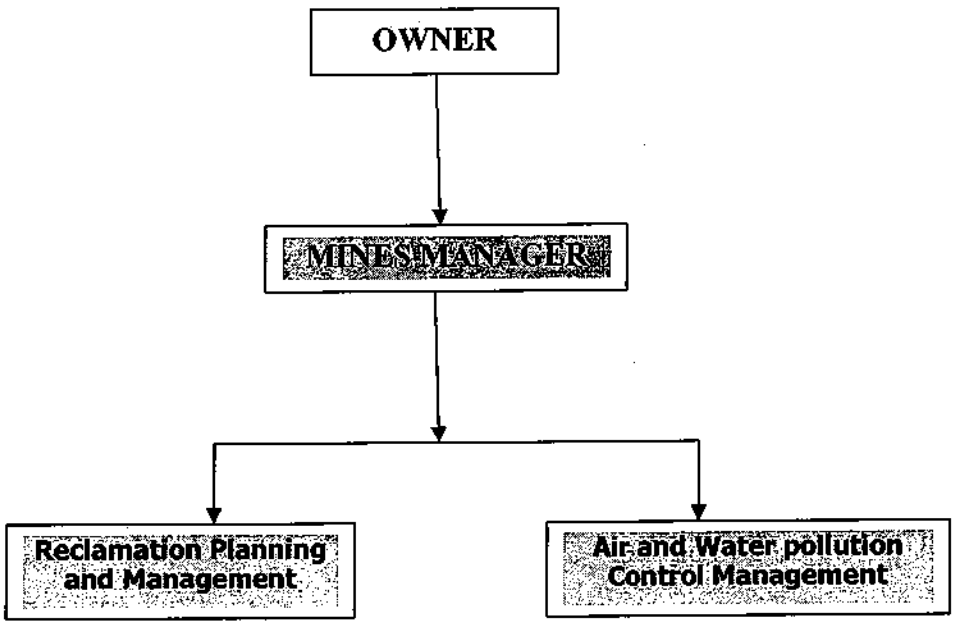
*Note: *900 plants * 500 Rs (for each plants including hedges and fences) =4.50 Lakhs*
A total of 1120 saplings were proposed to be planted. Out of which 900 plant in Safety Zone area have been planted during previous year of mining.
(120 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 220 Plants)
*Salary of Labor for haul road maintenance 1 labor*300 =300 per day*
300 300 = 90000/- or 1,50,000/-(including maintenance)*

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

It can be seen from the development programme that there will be generation of 3897.00 cum waste during this modification to the approved scheme period. During the modification to the approved scheme period, generation of waste will be dumped separately with suitable precaution by constructing parapet wall and garland drain and part use for plantation and used for village road, haul road maintenance.



Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.

L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12

3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed

- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.

- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the

weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large

quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.

j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bhandari Sai Quartzite Stone Mine of M/s Balaji Infocom (Prop. : Shri Manish Kumar), Village : Bhandari Sai, Thana : Saraikela, Distt. : Saraikela-Kharsawan, Jharkhand (1.37 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged

photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC

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14. Pauri Stone Mine of M/s Maa Tara Construction & Equipment Company (Prop. : Shri Amrit Mahato), Village : Pauri, Circle : Potka, Distt. : East Singhbhum, Jharkhand (2.428 Ha).

(Proposal no.: SIA/JH/MIN/ 534980 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, East Singhbhum).

The project has been granted EC by DEIAA, East Singhbhum, Jamshedpur vide memo no. 3261, dated 26.08.2017.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, East Singhbhum which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 154/Khanan, dated 18.02.2025 by DMO, East Singhbhum, Jamshedpur is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide memo no. 1285, dated 08.05.2025..

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 35999.98 cum/annum or 89999.96 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Pauri Stone Mine	
2	Lessee:	:	M/s Maa Tara Construction & Equipment Company Partner – Shri Amrit Mahato	
3	Lease Address	:	Mouza - Pauri, Circle–Potka, District – East Singhbhum, State- Jharkhand.	
4	Lease Area	:	2.428 ha	Acres- 6.00 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 1.10 Cr	
7	EMP Budget	:	Capital: Rs. 8.75 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New (Re-apprisal of DEIAA EC)	
9	Mineable Reserves	:	176138.544 cum	440346.36 tons
10	Mine Life	:	Up to the lease period i.e. 18.12.201/ to 17.12.2027.	
11	Man power	:	20	
12	Water Requirement	:	9.58~10.00 KLD (Drinking: 0.20 KLD, Dust Suppression: 6.98 KLD, Plantation: 2.40 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Bhangbanga River, Approx. 9.6 km towards NW direction of mine site.	
17	Nearest Habitation	:	Pauri village, ~~Approx. 0.45 km~~ in ESE direction.	
18	Nearest Railway Station	:	Haludpukur Railway station, approx. 3.45 km towards SSW direction.	
19	Nearest Air Port	:	Birsa Munda Airport Ranchi, Jharkhand, approx. 112.34 km towards NW direction.	
20	Nearest Forest	:	Kudada R.F. Approx 8.4 km towards NNE direction of mine site. Protected Forest Approx. 7.6 km towards NE direction of mine site.	
21	Road & Highways	:	NH-220, approx. 1.29 km towards South direction.	

CO-ORDINATES

1	Latitude	:	From 22°37'49.085" N	To 22°37'56.658" N

2	Longitude	:	From 86°9'0.006" E	To 86°9'10.436" E

LAND DETAILS

Plot no.
200 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 18.12.2017 to 17.12.2027.
2	CO	:	The CO, Potka, East Singhbhum vide letter no. 956, dated 06.12.2016 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO Cluster	:	DMO, East Singhbhum, Jamshedpur vide memo no. 153/Khanan, dated 18.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 384, dated 06.03.2025 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Jamshedpur Forest Division vide letter no. 4702, dated 13.12.2016 & letter no. 662, dated 26.03.2025certified that the distance of reserved / protected forest is more than 250 meter from proposed project site. Further it is stated that the distance of the above plot from the Saraikela Forest Division is 135 meter in the West Direction of the village. Therefore information regarding the distance from the forest land can be obtained from Saraikela Forest Division. The Project Authorities have applied with the DFO, Saraikela Forest Division vide letter dated 26.04.2025 to issue the requisite certificate as above. The DFO, Saraikela Forest Division has expressed his inability to issue the requisite certificate as the project is not located in Saraikela Forest Division. The PAs stated that the details of the distance of the nearest forest from the project site is also available on the PARIVESH Portal. The PAs have also submitted an affidavit that the distance of the nearest forest from the project boundary is more than 250 meters.

			The PARIVESH Portal was verified during the appraisal and it was found that the distance of the nearest forest from the project boundary is 5.17 KM.
6	DSR	:	This project is mentioned in approved DSR of East Singhbhum, Jamshedpur District (Sl. no. 20, Page no. 29).
7	Gram Sabha	:	Gram Sabha conducted on 06.11.2016.
8	Scheme / Mine Plan Approval	:	i. Mine plan approved by DMO, East Singhbhum, Jamshedpur vide letter no. 72, Dated 10.01.2017. ii. Mining scheme approved by DMO, East Singhbhum, Jamshedpur vide letter no. 222/Khanan, dated 07.03.2025.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, East Singhbhum, Jamshedpur vide memo no. 3261, dated 26.08.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide memo no. 1285, dated 08.05.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-2187976 /2018/545, dated 22.05.2018.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. : JSPCB/RO/JSR/CTO-4589555 /2019/34, dated 16.04.2019.
13	Production Report	:	Production report issued by DMO, East Singhbhum, Jamshedpur vide memo no. 154/Khanan, dated 18.02.2025.
14	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast mechanized mining method	
2	Quarry Area	:	2.428 ha. or 6.00 Acres	Life of Mine – Up to the lease period i.e. 18.12.2017 to 17.12.2027.
3	Waste Generation	:	Total 3789.11 cum intercalated waste generated during this scheme period.	
4	Stripping Ratio	:	01:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	220 AMSL to 180 AMSL	
8	Ground Level Elevation	:	170 AMSL	
9	Ultimate Working Depth	:	175 AMSL (45 mbgl)	

10	Water Table	:	160 - 158 AMSL (60 -62 mbgl)
11	Topography of Mine	:	Area represents an undulating Topography.
12	Explosive Requirement	:	110 kg/day
13	Diesel/Fuel requirement	:	130 litre/day

Production Details

Year	Total excavation (cum)	Recovery 5% waste cum	Recovery 95% stone cum	tonnes	Bench mRL
1st	37894.20	1894.71	35999.49	89998.73	220-198
2nd	37888.00	1894.40	35993.60	89964.00	198-186
Total	**75782.2**	**3789.11**	**71993.09**	**179982.73**	

As per EC letter-

Year	Production in MT
1st	89999.96
2nd	89999.10
3rd	89997.30
4th	89996.63
5th	80351.78
Total	**440344.47**

As per approved mine plan production: - 35999.49 cum/annum or 89998.73 TPA.
As per EC letter production: - 35999.98 cum/annum or 89999.96 TPA.
Land Use

Pattern of Utilization	Existing Land Use (in Ha)	At the end of modification to the approved scheme of mining period (in Ha)	At ultimate stage (in Ha)
Excavation	Nil	0.744	1.692 (1.565 ha area will converted as water reservoir & 0.127 ha. backfilled)

Waste Dump	Nil	0.10	Nil
Road	Nil	0.063	Comes under quarry
Safety zone	0.736 (Plantation)	0.736 (Plantation)	0.736 (Plantation)
Total are in use	**0.736**	**1.643**	**2.428**
Unused Area	1.692	0.785	Nil
Total Lease Area	**2.428**	**2.428**	**2.428**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.73 ha	1840 (Already done during previous year of mining)
2	Along Approach Road	:	550 m	1100
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note: A total of 3040 saplings were proposed to be planted. Out of which 1840 plant in Safety Zone area have been planted during previous year of mining.
(1100 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1200 Plants).

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000

2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	14,000 8,000 8,000 7,000
3	Plantation	6,00,000	1,00,000
4	Construction and maintenance of haul road	2,75,000	1,50,000
TOTAL		**8,75,000**	**4,87,000**

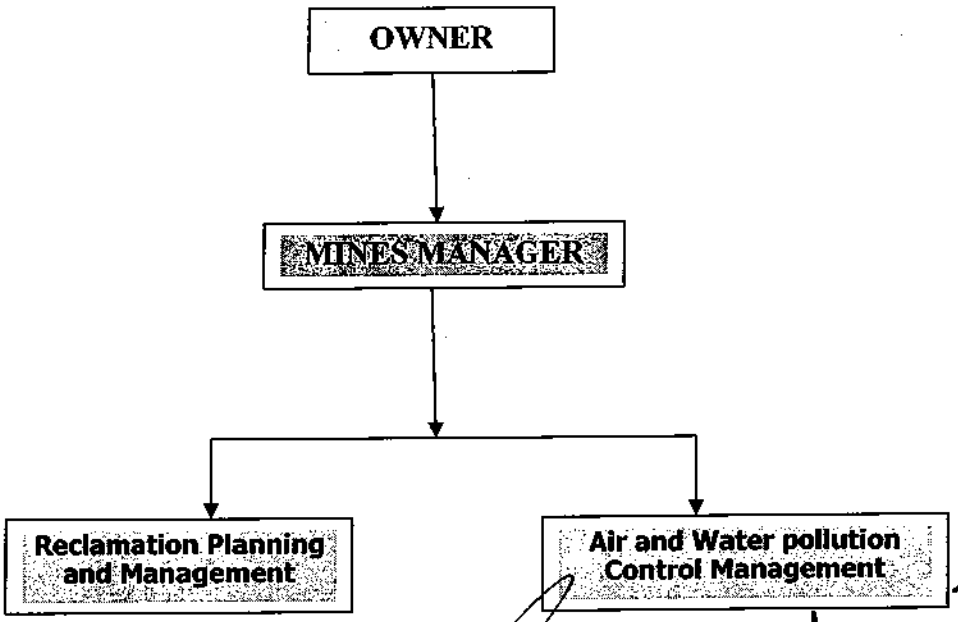
Note: *1200 plants * 500 Rs (for each plants including hedges and fences) = 6.00 Lakh
A total of 3040 saplings were proposed to be planted. Out of which 1840 plant in Safety Zone area have been planted during previous year of mining.
(1100 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1200 Plants)
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/-(including maintenance)
**** 5.00 lakh per kilometer (250000 * 0.55 km haul road = 2,75,000/)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 3789.11 cum intercalated waste generated during this scheme period. During the scheme period all the waste will be temporarily stack and some utilized for maintenance of haul and approaching road.



Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.

L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12

3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed

- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.

- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the

weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large

quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.

j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Pauri Stone Mine of M/s Maa Tara Construction & Equipment Company (Prop. : Shri Amrit Mahato), Village : Pauri, Circle : Potka, Distt. : East Singhbhum, Jharkhand (2.428 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

15. Kerketa Stone Mine of M/s Young India Construction Pvt. Ltd. (Prop. : Mirza Shahzad Baig), Village : Kerketa, Thana : Kowali, Distt. : East Singhbhum, Jharkhand (3.54 Ha).

(Proposal no.: SIA/JH/MIN/ 530639 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, East Singhbhum).

The project has been granted EC by DEIAA, East Singhbhum, Jamshedpur vide memo no. 1546/C, dated 22.04.2017.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, East Singhbhum which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 827/Khanan, dated 23.09.2024 by DMO, East Singhbhum, Jamshedpur is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide memo no. 1283, dated 08.05.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been

provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 79898.14 cum/annum or 215725 TPA

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Kerketa Stone Mine	
2	Lessee:	:	M/s Young India Construction Pvt. Ltd. Prop. – Mirza Shahzad Baig H. No. -127, M/B.- Golmuri, P.O.+P.S.-Golmuri Jamshedpur, District - East Singhbhum, State – Jharkhand.	
3	Lease Address	:	Mouza - Kerketa , Thana - Kowali, District – East Singhbhum, State- Jharkhand.	
4	Lease Area	:	3.54 ha	Acres- 8.76 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 1.40 Cr	
7	EMP Budget	:	Capital: Rs. 10.57 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	393995.92cum	1063789.00 tons
10	Mine Life	:	Up to the lease period i.e. 26.09.2017 to 25.09.2027.	
11	Man power	:	19	
12	Water Requirement	:	13.39 ~ 13.40 KLD (Drinking: 0.19 KLD, Dust Suppression: 7.1 KLD, Plantation: 6.1 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Gudra nadi, approx 1.5 km towards SE direction of mine site. Ramgarh nadi Approx. 2.5 km towards SSW direction of mine site. Naga nadi Approx. 2.00 km towards N direction of mine site.	
17	Nearest Habitation	:	Kerkata village, ~~Approx. 0.14 km~~ in SSW direction.	
18	Nearest Railway Station	:	Haludpukur Railway station, approx. 4.43 km towards NNW direction.	
19	Nearest Air Port	:	Jamshedpur Airport, Jharkhand approx. 27.80 km towards N direction	
20	Nearest Forest	:	Banka Forest, Approx. 6.64km, in SSW Direction.	
21	Road & Highways	:	NH-220 approx3.90 km towards WNW direction.	

CO-ORDINATES

1	Latitude	:	From 22°33'37.62756 " N	To 22°33'44.80729" N
2	Longitude	:	From 86°09'32.59409" E	To 86°09'26.38784" E

LAND DETAILS

Khata no.	Plot no.
86	01

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 26.09.2017 to 25.09.2027.
2	CO	:	The CO, Potka, East Singhbhum vide letter no. 357, dated 07.05.2016 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan.
3	DMO Cluster	:	DMO, East Singhbhum, Jamshedpur vide memo no. 164/Khanan, dated 20.02.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Dalma Elephant Project vide letter no. 620, dated 24.04.2024 certified that the proposed project site is outside Eco Sensitive Zone of Dalma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Jamshedpur Forest Division vide letter no. 3258, dated 26.12.2024 certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of East Singhbhum, Jamshedpur District (Sl. no. 19, Page no. 29).
7	Gram Sabha	:	Gram Sabha conducted on 22.09.2024.
8	Scheme / Mine Plan Approval	:	i. Mine plan approved by DMO, East Singhbhum, Jamshedpur vide memo no. 2512, Dated 17.09.2016. ii. Mining scheme approved by Additional Director, Geology, Hazaribag vide letter no. 213, dated 30.08.2022. iii. Modification of Mining scheme approved by DMO, East Singhbhum, Jamshedpur vide letter no. 903/Khanan, dated 29.10.2024.

9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, East Singhbhum, Jamshedpur vide memo no. 1546/C, dated 22.04.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide memo no. 1283, dated 08.05.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-2082695 /2018/304, dated 26.03.2018.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. : JSPCB/RO/JSR/CTO-18065544 /2024/31, dated 21.05.2024.
13	Production Report	:	Production report issued by DMO, East Singhbhum, Jamshedpur vide memo no. 827/Khanan, dated 23.09.2024.
14	Qualified Person	:	Shri Sahadev Singh was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast mechanized mining method	
2	Quarry Area	:	3.54 ha. or 8.76 Acres	Life of Mine – Up to the lease period i.e. 26.09.2017 to 25.09.2027.
3	Waste Generation	:	Total 72817.60 tons of waste will be generated during the plan period.	
4	Stripping Ratio	:	01:0.13	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	204 AMSL to 192 AMSL	
8	Ground Level Elevation	:	192 AMSL	
9	Ultimate Working Depth	:	172 AMSL (20 mbgl)	
10	Water Table	:	167 AMSL (25 mbgl)	
11	Topography of Mine	:	The area represents hillock	
12	Explosive Requirement	:	100 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Total excavation of stone in cum	Recovery 80% of total excavation		Total waste in cum	Bench MRL
		Cum	MT		
1st	98544.00	78835.20	212855.04	23194.80	197.90 -184.00

2nd	99056.00	79244.80	213960.96	22405.60	200.00-184.00
3rd	95256.00	76204.80	205752.96	27217.20	193.60-184.00
Total	**292856.00**	**234284.80**	**632568.96**	**72817.20**	-

As per EC letter-

Year	Production in MT
1st	212952.24
2nd	213975.00
3rd	215724.60
4th	212353.96
5th	214881.98
Total	**1069887.78**

As per approved mine plan production: - 79244.80 cum/annum or 213960.96 TPA.

As per EC letter production: - 79898.14 cum/annum or 215725 TPA.

Land Use

Pattern of Utilization	Existing Land Use (in Ha)	At the end of modification to the approved scheme of mining period (in Ha)	At ultimate stage (in Ha)
Excavation	0.440	2.267	2.845 (entire area shall be left as water reservoir)
Dump	-	0.520	-
Road	0.001	-	-
Infrastructure	-	-	-
Green belt along safety zone	-	0.700 (Plantation)	0.700 (Plantation)
Unused area	**3.099**	**0.058**	-
Total	**3.545**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.700 ha	1750

				(Already done during previous year of mining)
2	Along Approach Road	:	600 m	1200
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note: A total of 3050 saplings were proposed to be planted. Out of which 1750 plant in Safety Zone area have been planted during previous year of mining.
(1200 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1300 Plants).

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	 14,000 8,000 8,000 7,000
3	Plantation	8,75,000	1,00,000
4	Construction and maintenance of haul road	2,00,000	1,50,000
TOTAL		**10,57,000**	**4,87,000**

Note: *1750 plants * 500 Rs (for each plants including hedges and fences) = 8.75 Lakh
A total of 3050saplings were proposed to be planted. Out of which 1875 plant in Safety Zone area have been planted during previous year of mining.
(1200 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1300 Plants)
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/-(including maintenance)

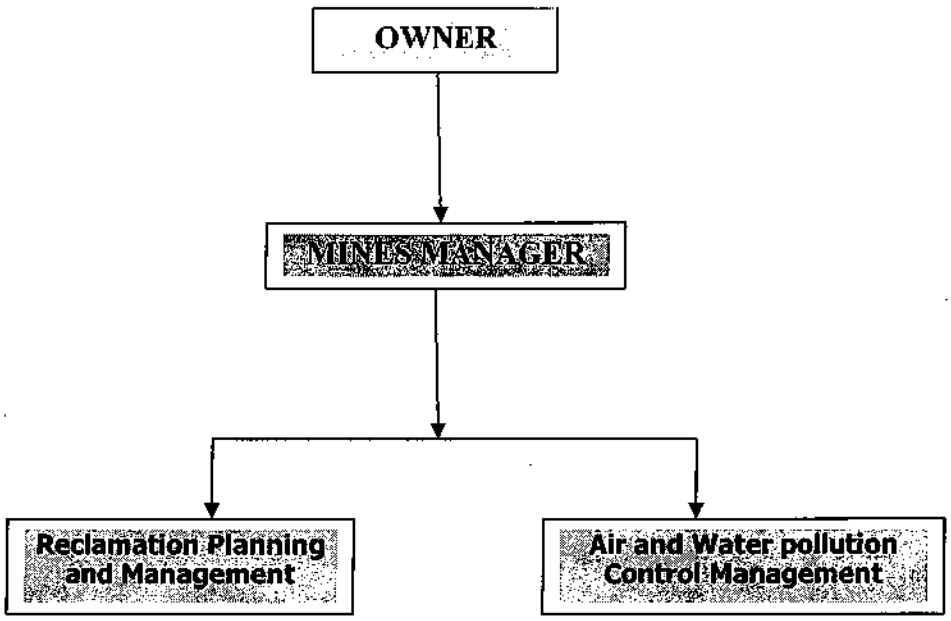
Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration

1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

It can be seen from the development programme that there will be generation of total 72817.60cum waste during this scheme period. During the scheme period, all the dump shall be temporarily dump as such no backfill arises.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside

- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate

		corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.
While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.
The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.
The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container

- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.

- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kerketa Stone Mine of M/s Young India Construction Pvt. Ltd. (Prop. : Mirza Shahzad Baig), Village : Kerketa, Thana : Kowali, Distt.

East Singhbhum, Jharkhand (3.54 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

16. **Nagarkeshwari Stone Mine of M/s Ganpati Stone (Partner. : Shri Nakul Mandal), Village : Nagarkeshwari, P.S. : Suriya, Distt. : Giridih, Jharkhand (1.142 Ha).**

(Proposal no.: SIA/JH/MIN/ 535324 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Giridih).

The project has been granted EC by DEIAA, Giridih vide letter no. 124/EC/DEIAA/Giridih, dated 14.07.2017.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Giridih which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per letter no. 16/M, dated 15.01.2025 by DMO, Giridih is within the permissible limit of EC.

The compliance report of previous EC has been issued by Regional Office, JSPCB, Hazaribag vide memo no. 2189, dated 28.12.2024.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 3997.03 cum/annum or 10792 TPA.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Nagarkeshwari Stone Mine
2	Lessee:	:	M/S Ganpati Stone, Partner- Shri Nakul Mandal

3	Lease Address	:	Mouza - Nagarkeshwari, P.S. –Suriya, District – Giridih, State- Jharkhand	
4	Lease Area	:	1.142 ha	Acres- 2.82 Acres
5	Type of Land	:	Non-Forest (Pvt. Raity Land)	
6	Project Cost	:	Rs. 1.10 cr.	
7	EMP Budget	:	Capital: Rs. 8.0 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New (Re-appraisal of DEIAA EC)	
9	Mineable Reserves	:	107771 tons	39915.18cum
10	Mine Life	:	Up to the lease period i.e. 27.09.2016 to 26.09.2026.	
11	Man power	:	17	
12	Water Requirement	:	6.87 ~ 6.90 KLD (Drinking: 0.17 KLD, Dust Suppression: 5.6 KLD, Plantation: 1.1 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	200 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Barakar river, Approx. 2.00 km towards NE direction of mine site..	
17	Nearest Habitation	:	~~Approx. 0.49 km in~~ NW direction	
18	Nearest Railway Station	:	Chaube Railway station, approx. 3.30 km towards N direction.	
19	Nearest Air Port	:	Birsa Munda Airport Ranchi, approx. 94.00 km towards NW direction.	
20	Nearest Forest	:	PF, Approx. 1.5 km towards E direction of mine site. PF, Approx. 1.75 km towards W direction of mine site. PF, ~~Approx. 0.05 km towards~~ SSE direction of mine site.	
21	Road & Highways	:	NH-19, Approx. 12.73 km. in SSW direction	

CO-ORDINATES

1	Latitude	:	From 24°12'24.9" N	To 24°12'27.8" N
2	Longitude	:	From 85°48'44.4"E	To 85°48'50.5" E

LAND DETAILS

Plot no.
37 (P), 53 (P), 49 (P), 50 (P), 51 (P) & 52 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	1st Lease deed : 27.09.2006 to 26.09.2016. 2nd Lease deed (Renewal) : Lease period i.e. 27.09.2016 to 26.09.2026.

2	CO	:	The CO, Sariya, Giridih vide letter no. 19, dated 08.01.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 374/M, dated 12.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2581, dated 30.12.2024 certified that the proposed project site is outside Eco Sensitive Zone of Hazaribag Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Hazaribag East Forest Division vide memo no. 1581, dated 13.05.2014 certified that the distance of forest is 62 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Sl. no. 04, Page no. 29).
7	Gram Sabha	:	Gram Sabha conducted on 09.07.2014.
8	Scheme / Mine Plan Approval	:	i. Mine plan approved by AMO, Giridih vide letter no. 2169/M, Dated 13.07.2016. ii. Mining scheme approved by Additional Director, Geology, Hazaribag vide memo no. 124/G, dated 15.07.2022.
9	Previous Environmental Clearance (EC)	:	i. Previous EC granted by SEIAA, Jharkhand vide letter no. EC/SEIAA/2014-15/594/2015/1024, dated 04.06.2015. ii. Transfer of EC granted by DEIAA, Giridih vide letter no. 124/EC/DEIAA/Giridih, dated 14.07.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Regional Office, JSPCB, Hazaribag vide memo no. 2189, dated 28.12.2024.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. D-22 (N), dated 13.01.2014.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. : JSPCB/RO/HZB/CTO-14151050 /2022/133, dated 14.09.2022.
13	Production Report	:	Production report issued by DMO, Giridih vide letter no. 16/M, dated 15.01.2025.
14	Qualified Person	:	Shri J.P. Bhattacharya vide letter dated 10.05.2025 affirm that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Opencast mechanized mining method	
2	Quarry Area	:	1.142 ha or 2.82 Acres	Life of Mine – Up to the lease period i.e. 27.09.2016 to 26.09.2026.
3	Waste Generation	:	25107 Tons	
4	Stripping Ratio	:	01:0.5	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	318 AMSL to 320 AMSL	
8	Ground Level Elevation	:	318 AMSL	
9	Ultimate Working Depth	:	301 AMSL (17 mbgl)	
10	Water Table	:	295 AMSL (23 mbgl)	
11	Topography of Mine	:	The lease area represents adulatory land with rock mass of Dolerite.	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Stone production in tonnes	Stone production in cum	Bench Section
1st	10557	3910	313-310
2nd	10511	3145	318-312
3rd	10511	3893	312-309
4 th	10557	3910	310-307
5th	2173	805	310-307
Total	**44309**	**15663**	

As per EC letter-

Year	Production in MT
1st	10649
2nd	10562
3rd	10714
4th	10784

5th	10792
Total	**53501**

As per approved mine plan production: - 3910 cum/annum or 10557 TPA.

As per EC letter production: - 3997.03 cum/annum or 10792 TPA

Land Use

Pattern of Utilization	Existing Land Use (in Ha)	At the end of modification to the approved scheme of mining period (in Ha)	At ultimate stage (in Ha)
Quarry	0.2997	0.5977	0.5977 (Entire area shall be converted into water reservoir)
Greenbelt Along Safety Zone	0.5244 (Plantation)	0.5244 (Plantation)	0.5244 (Plantation)
Office	0.0200	0.0200	0.0200
Total area in use	**0.8441**	1.1421	1.1421
Balance	**0.2980**	0.0	0.0
Total	**1.1421**		

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.52 ha	1300 (Already done during previous year of mining)
2	Along Approach Road	:	500 m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note: A total of 2400 saplings were proposed to be planted. Out of which 1300 plant in Safety Zone area have been planted during previous year of mining.
(1000 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1100 Plants)

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation.

Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring	--	
	i) Air		14,000
	ii) Water		8,000
	iii) Soil		8,000
	iv) Noise		7,000
3	Plantation	5,50,000	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
TOTAL		**8,00,000**	**4,87,000**

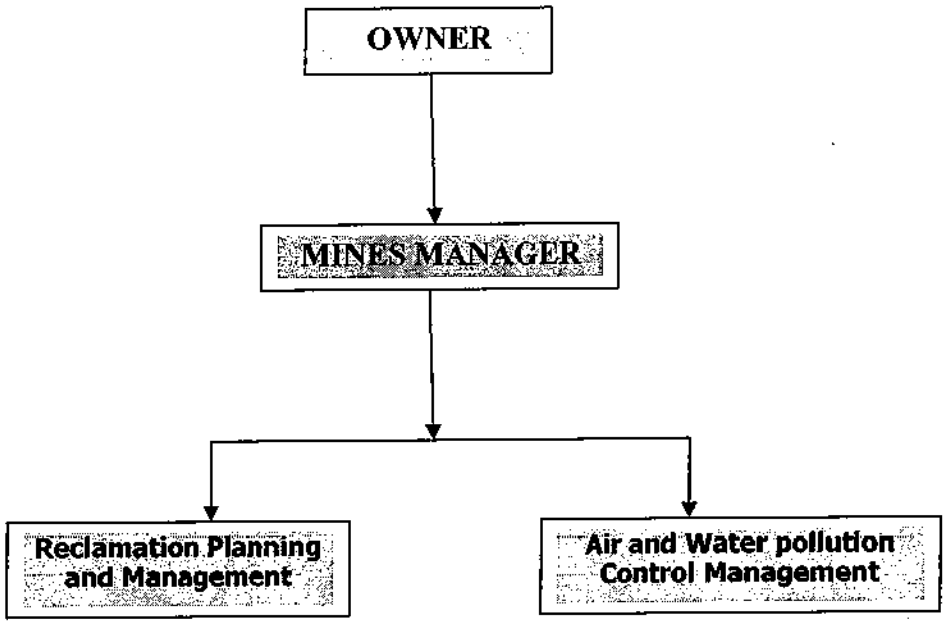
Note: *1100 plants * 500 Rs (for each plants including hedges and fences) = 5.50 Lakh
A total of 2400 saplings were proposed to be planted. Out of which 1300 plant in Safety Zone area have been planted during previous year of mining.
(1000 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1100 Plants)
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/-(including maintenance)
**** 5 lakh per kilometer (500000 * 0.50 km haul road = 2,50,000/)***

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

The overburden materials covering the stone deposit within the mining lease area have been removed during earlier working periods. The estimated quantity of overburden to be removal during mining plan implementation period was 16400cu.m. The overburden materials mainly consist of alluvial soil with small pieces of weathered stone, shale etc.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.

- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1	5	4	3	2	1

(Catastrophic)					
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	**High Risk**	**1-4**
2	Medium Risk	5-12
3	*Low Risk*	*13-25*

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.

- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.

Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.

- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.

- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated

12.12.18 decided that the proposal for Nagarkeshwari Stone Mine of M/s Ganpati Stone (Partner. : Shri Nakul Mandal), Village : Nagarkeshwari, P.S. : Suriya, Distt. : Giridih, Jharkhand (1.142 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

17. Mayurkola Stone Mine of M/s Maa Ambika Minerals Pvt. Ltd. (Director : Shri Subrato Paul), Village : Mayurkola, Thana : Kotalpokhar, Distt. : Sahibganj, Jharkhand (2.86 Ha).

(Proposal no.: SIA/JH/MIN/ 535777 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/56, dated 21.06.2017.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ · All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 406/M, dated 04.03.2025 by DMO, Sahibganj is within the permissible limit of EC.

The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1271, dated 07.05.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 68867.26 cum/annum or 185941.62 TPA

<u>Project and Location Details:</u>

Sl	Parameter		Details
1	Project Name	:	Mayurkola Stone Mine
2	Lessee:	:	M/s Maa Ambika Minerals Pvt. Ltd, Director - Shri Subrato Paul

3	Lease Address	:	Village – Mayurkola, Thana – Kotalpokhar, District – Sahibganj, State- Jharkhand	
4	Lease Area	:	2.86 ha	Acres- 7.07 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 1.30 cr.	
7	EMP Budget	:	Capital: Rs. 14.00 Lakhs	Recurring: 4.87Lakhs / year
8	New or Expansion	:	New (Re-apprisal of DEIAA EC)	
9	Mineable Reserves	:	278444.07 cum	751799 tons
10	Mine Life	:	Up to the lease period i.e. 06.11.2017 to 05.11.2027.	
11	Man power	:	30	
12	Water Requirement	:	12.30~ 13.00 KLD (Drinking: 0.30KLD, Dust Suppression: 8.2 KLD, Plantation: 3.8 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Gumani River, Approx. 4.21 km towards North direction of mine site.	
17	Nearest Habitation	:	~~Approx. 0.22 km in~~ West direction	
18	Nearest Railway Station	:	Kotalpukur Railway station, approx. 3.20 km towards ESE direction	
19	Nearest Air Port	:	Deoghar Airport, Deoghar approx. 114.80 km towards WSW direction.	
20	Nearest Forest	:	Protected Forest, Approx. 1.00 km. in NNE direction. Protected Forest, Approx. 4.50 km. in East direction. Protected Forest, Approx. 4.70 km. in East direction.	
21	Road & Highways	:	NH- 133 A, Approx. 6.20 km. in west direction.	

CO-ORDINATES

1	Latitude	:	From 24°45'16.92" N	To 24°45'24.77" N
2	Longitude	:	From 87°47'41.75" E	To 87°47'49.13" E

LAND DETAILS

Khata no.	Plot no.
41	752, 753, 754, 755, 756, 761, 762, 763, 764, 766, 767, 768, 769, 770 & 771

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 06.11.2017 to 05.11.2027.
2	CO	:	The CO, Barharwa (Sahibganj) vide memo no. 77/Ra., dated

			07.02.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 117/M, dated 22.01.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 203, dated 30.01.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 1467, dated 21.10.2016 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 122, Page no. 287).
7	Gram Sabha	:	Gram Sabha conducted on 25.10.2016.
8	Scheme / Mine Plan Approval	:	Mining Plan / Scheme approved by DMO, Sahibganj vide letter no. 319/M, dated 25.04.2024.
9	Previous Environmental Clearance (EC)	:	i. Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2017-18/56, dated 21.06.2017. ii. Transfer of EC granted by SEIAA, Jharkhand vide letter no. 699, dated 20.03.2025.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Member Secretary, JSPCB, Ranchi vide letter no. 1271, dated 07.05.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-2197573 /2018/443, dated 27.04.2018.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTO-20758563 /2025/6, dated 02.01.2025.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 406/M, dated 04.03.2025.
14	Grid Certificate	:	DMO, Sahibganj vide memo no. 405/M, dated 04.03.2025 certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
15	Qualified Person	:	Shri Yashwant Kumar vide letter dated 08.05.2025 affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast Mechanized mining method	
2	Quarry Area	:	2.86 ha or 7.07 Acres	Life of Mine – Up to the lease period i.e. 06.11.2017 to 05.11.2027.
3	Waste Generation	:	29640 tons	
4	Stripping Ratio	:	1:0.06	
5	Working Days	:	300	
6	Benches: size & No	:	6m x 6m	
7	Elevation of Mine	:	43 AMSL to 47 AMSL	
8	Ground Level Elevation	:	43 AMSL	
9	Ultimate Working Depth	:	13 AMSL (30 mbgl)	
10	Water Table	:	10-12 AMSL (31-33 mbgl)	
11	Topography of Mine	:	Area represents adulatory land with rock mass of Basalt rock	
12	Explosive Requirement	:	90 kg/day	
13	Diesel/Fuel requirement	:	120 litre/day	

Production Details

Year	Production of Stone in Tonnes	Overburden in Tonnes	Bench mRL
1st	185706	29640	43-31
2nd	185900	0	37-25
3rd	118962	0	25-19
Total	**490568**	**29640**	

As per EC letter-

Year	Production of Stone As per EC in Tonnes
1st	149805.81
2nd	160484.60
3rd	157574.03
4th	185941.62
5th	184906.71
Total	**838712.77**

As per approved mine plan production: - 68852 cum/annum or 185900 TPA.
As per EC letter production: - 68867.26 cum/annum or 185941.62TPA.

Land Use

Pattern of Utilization	Existing (Acre)	Proposed Current Plan Period (Ha)	Proposed Land Use at End of Life of Mine (Ha)	Land Usage at Conceptual Stage
Mining Area	0.44	2.13	2.13	Water Body
Office /Store	0.00	0.02	0.02	Plantation
Road	0.0	0.04	0.04	Water Body
Dump Yard	0.0	0.05	0.05	Plantation
Garland Drain	0.56 (Plantation)	0.56 (Plantation)	0.56 (Plantation)	Plantation
Safety Zone				
Settling Tank				
Total area in use	**1.0**	**2.8**	**2.8**	**Plantation**
Balanced Area	1.86	0.06	0.06	
Lease hold area	**2.86**	**2.86**	**2.86**	

ENVIRONMENT MANAGEMENT
Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.56 ha	1400 (Already done during previous year of mining)
2	Along Approach Road	:	900 m	1800
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note: A total of 3300 saplings were proposed to be planted. Out of which 1400 plant in Safety Zone area have been planted during previous year of mining.
(1800 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1900 Plants).

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring i) Air ii) Water iii) Soil iv) Noise	--	14,000 8,000 8,000 7,000
3	Plantation	9,50,000	1,00,000
4	Construction and maintenance of haul road	4,50,000	1,50,000
TOTAL		**14,00,000**	**4,87,000**

**** Note: 1900 plants * 500 Rs (for each plants including hedges and fences) = 9.50 Lakh***
A total of 3300 saplings were proposed to be planted. Out of which 1400 plant in Safety Zone area have been planted during previous year of mining.
(1800 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1900 Plants)
Salary of Labor for haul road maintenance 1 labor*300 =300 per day
300* 300 = 90000/- or 1,50,000/- (including maintenance material)
5.0 lakh per kilometer (500000 * 0.90 km haul road = 3,50,000/-)

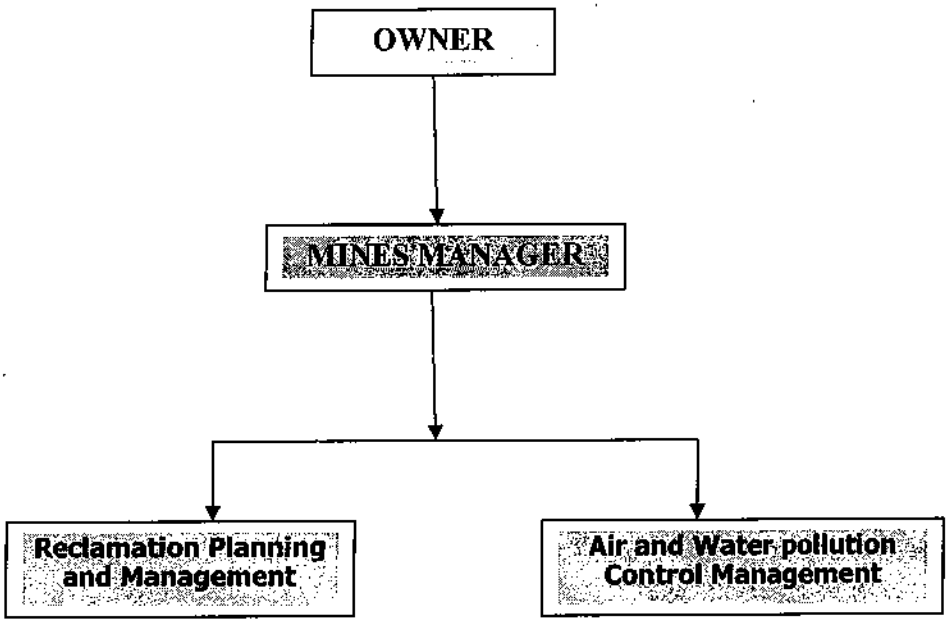
Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly

2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 29640 tonnes waste generated during this plan period. During quarry advancement gritty soil overburden will be generated and this will be dump in SW direction in the lease area will be used for backfilled end of the mine.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.

- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission
- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.

C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x Consequence)	L5 (Very Unlikely)	L4 (Remote)	L3 (Occasional)	L2 (Probable)	L1 (Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock	Occasional	Major	6

		(Bodily Injury)			
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the

face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.
While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.
The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.
The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.

- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Mayurkola Stone Mine of M/s Maa Ambika Minerals Pvt. Ltd. (Director : Shri Subrato Paul), Village : Mayurkola, Thana : Kotalpokhar, Distt. : Sahibganj, Jharkhand (2.86 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

18. **Jockmari (Guttibera) Stone Mine of M/s Maa Jagdambe Stone Works (Partner : Shri Amit Kumar & Shri Bipin Kumar), Village : Jockmari (Guttibera), Thana : Jirwabari, Thana no. : 13, Distt. : Sahibganj, Jharkhand (1.83 Ha).**

(Proposal no.: SIA/JH/MIN/ 533447 /2025)

Name of the consultant : P & M Solution, Noida, U.P.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Sahibganj).

The project has been granted EC by DEIAA, Sahibganj vide letter no. EC/DEIAA/2016-17/88, dated 13.12.2016.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Sahibganj which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ · All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 744/M, dated 24.07.2023 by DMO, Sahibganj is within the permissible limit of EC.

The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide ref. no. 1937, dated 14.09.2023.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity- 26064.07 cum/annum or 70373 TPA.

Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Jockmari (Guttibera) Stone Mine

2	Lessee:	:	M/s Maa Jagdambe Stone Works Partner – Sri Amit Kumar Address: At + P.O.+ P.S. – Barhiya, District – Lakhisarai, Bihar.	
3	Lease Address	:	Mouza – Jockmari (Guttibera), Thana - Jirwabari, District – Sahibganj, State- Jharkhand	
4	Lease Area	:	1.83 ha	Acres- 4.52 Acres
5	Type of Land	:	Non-Forest (Raiyati Land)	
6	Project Cost	:	Rs. 1.00Cr.	
7	EMP Budget	:	Capital: Rs. 8.00 Lakhs	Recurring: 4.87 Lakhs / year
8	New or Expansion	:	New (Reapprisal of DEIAA EC)	
9	Mineable Reserves	:	369838 cum	998565 tons
10	Mine Life	:	Up to the lease period i.e. 28.01.2017 to 27.01.2027.	
11	Man power	:	36	
12	Water Requirement	:	7.86 ~ 8.00 KLD (Drinking: 0.36 KLD, Dust Suppression: 5.30 KLD, Plantation: 2.20 KLD)	
13	Water Source	:	Water will be taken from nearby village	
14	DG Set / power	:	500 KVA	
15	Crusher	:	No Crusher	
16	Nearest Water Body	:	Ganga River, approx. 6.50 Km towards NE direction.	
17	Nearest Habitation	:	Sahibganj, approx. 4.0 Km towards East direction.	
18	Nearest Railway Station	:	Sahibganj Railway Station, approx. 4.52 km towards East direction.	
19	Nearest Air Port	:	Gaya International Airport, Bihar, approx. 272.61 Km towards SW direction.	
20	Nearest Forest	:	Dense mixed forest, Forest Approx. 0.93 km towards South direction of mine site.	
21	Road & Highways	:	NH-33, Approx. 1.25 km in North direction.	

CO-ORDINATES

1	Latitude	:	From N25°14'12.793"	To N25°14'20.194"
2	Longitude	:	From E87°35'20.673"	To E87°35'26.634"

LAND DETAILS

Khata no.	Plot no.
14	147 (P)
06	150

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 28.01.2017 to 27.01.2027.
2	CO	:	The CO, Mandro vide memo no. 344/Ra., dated 20.07.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Sahibganj vide memo no. 591/M, dated 28.03.2025 certified that 02 other mining lease area (3.60 Acre & 4.20 Acre) exists within 500 meters radius from proposed project site and total area is 12.32 Acre.
4	DFO Wild Life	:	DFO –cum-Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 1542, dated 14.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Sahibganj Forest Division vide memo no. 512, dated 12.04.2016 certified that the distance of forest land is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Sahibganj District (Sl. no. 164, Page no. 46).
7	Gram Sabha	:	Gram Sabha conducted on 19.05.2018.
8	Scheme / Mine Plan Approval	:	Mining scheme approved by DMO, Sahibganj vide letter no. 411/M, dated 10.04.2021.
9	Previous Environmental Clearance (EC)	:	i. Previous EC granted by DEIAA, Sahibganj vide letter no. EC/DEIAA/2016-17/88, dated 13.12.2016. ii. Transfer of EC granted by SEIAA, Jharkhand vide letter no. 267, dated 10.09.2024.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide ref. no. 1937, dated 14.09.2023.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-1304657 /2017/312, dated 03.07.2017.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide Ref. No. JSPCB/RO/DMK/CTO-1618954 /2017/159, dated 21.07.2017.
13	Production Report	:	Production report issued by DMO, Sahibganj vide memo no. 744/M, dated 24.07.2023.
14	Grid Certificate	:	JSPCB, Regional Office, Dumka vide ref. no. 1937, dated 14.09.2023 certified that the said project falls under grid no. 4 and production is within the over all permissible production limit and

			further vide memo no. 591/M, dated 28.03.2025 from DMO, Sahibganj certified that production of said mines is within limit of Grid no. 4.
15	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast mechanized Mining method	
2	Quarry Area	:	1.83 ha. or 4.52 Acres	Life of Mine – Up to the lease period i.e. 28.01.2017 to 27.01.2027.
3	Waste Generation	:	Total 4199 tons of waste (weathered rock) will be generated during the plan period.	
4	Stripping Ratio	:	01:0.01	
5	Working Days	:	300	
6	Benches: size & No	:	6 x 6 m	
7	Elevation of Mine	:	195 AMSL to 156 AMSL	
8	Ground Level Elevation	:	156 AMSL	
9	Ultimate Working Depth	:	141 AMSL (15mbgl)	
10	Water Table	:	130-135 AMSL (21-26 mbgl)	
11	Topography of Mine	:	Area present gently sloppy land of stone.	
12	Explosive Requirement	:	100 kg/day	
13	Diesel/Fuel requirement	:	130 litre/day	

Production Details

Year	Production in EC in Tons	Production of Stone in Cum	Production of Stone in Tons	Overburden Soil in Tons
1st	70070	26041	70311	2886
2nd	70027	26051	70338	1233
3rd	70054	25999	70198	0
4th	70178	26040	70308	0
5th	70373	26032	70286	0
Total	**350702**	**130163**	**351441**	**4199**

As per approved mine plan production: - 26051 cum/annum or 70338 TPA
As per EC letter production: - 26064.07 cum/annum or 70373 TPA

Note : The production shall be restricted upto 150 TPD only.

Land Use

Pattern of Utilization	Existing Land Use (in Ha)	At the end of scheme period (in Ha)	At Conceptual period (in ha)
Excavation	0.38	1.00	1.37 (Entire area shall be left as water reservoir)
Road	0.10	0.08	-
Safety Zone	0.46 (Plantation)	0.46 (Plantation)	0.46 (Plantation)
Total area In use	**0.94**	**1.54**	--
Balanced Unused Area	0.89	0.29	-
Total Lease Area	**1.83**	**1.83**	**1.83**

ENVIRONMENT MANAGEMENT

Green Belt Development

S. No.	Location		Area/Length	No. of Trees
1	Safety Zone	:	0.46 ha	1150 (Already done during previous year of mining)
2	Along Approach Road	:	500 m	1000
3	No. of plants distributed with consultation local authorities /village Panchayat	:	--	100

Note: A total of 2250 saplings were proposed to be planted. Out of which 1150 plant in Safety Zone area have been planted during previous year of mining.
(1000 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1100 Plants)

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable

species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

COST PROPOSED FOR EMP

Sl. No	Description	Capital Cost (Rs.)	Recurring Cost (Rs.)
1	Pollution Control & Dust Suppression	--	2,00,000
2	Baseline Monitoring	--	
	i) Air		14,000
	ii) Water		8,000
	iii) Soil		8,000
	iv) Noise		7,000
3	Plantation	5,50,000	1,00,000
4	Construction and maintenance of haul road	2,50,000	1,50,000
TOTAL		**8,00,000**	**4,87,000**

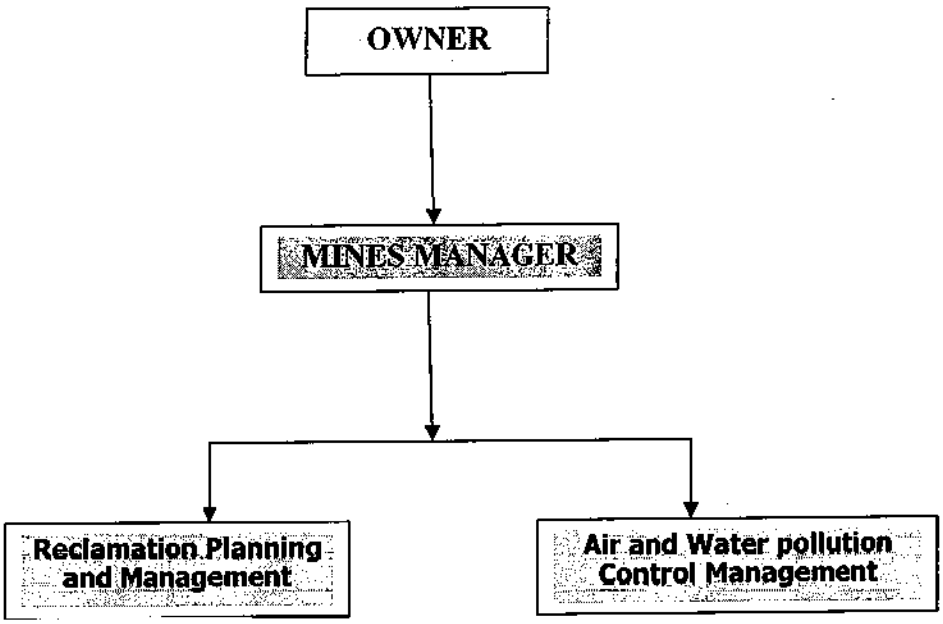
Note: A total of 2250 saplings were proposed to be planted. Out of which 1150 plant in Safety Zone area have been planted during previous year of mining.
(1000 plant along approach road & 100 plants with consultation from local authorities/ village Panchayat) will be done in the first year of operation. (Total 1100 Plants)
*Salary of Labor for haul road maintenance 1 labor*300 =300 per day*
300 300 = 90000/- or 1,50,000/-(including maintenance)*
** 5.0 lakh per kilometer (500000 * 0.50 km haul road = 2,50,000/-)*

Environment Monitoring Programme

Sl. No	Description	No. Monitoring Stations	Duration
1	Air	4 Stations	6 Monthly
2	Soil	2 Stations	6 Monthly
3	Surface Water	2 Stations	6 Monthly
4	Ground Water	2 Stations	6 Monthly
5	Noise	4 Stations	6 Monthly

Solid Waste Management

Total 4199 tons overburden soil generated during plan period. During quarry development generated overburden soil will be used for road dressing and plantation.



Organization Structure

Water Quality Management

- Mining is planned to above the ground water table. In case any intersection is likely, mining activities will be stopped 2m above the Ground Water Table.
- The rain water during rainy season will be collected in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system. Check Pits and Retainer walls shall be constructed to prevent water flowing into the lease area from outside or from inside the lease area to the outside
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.
- It shall be ensured that quality of drinking water for the worker is hygienic and good sanitation system shall be made available.

Air Quality Management

- Dust extractor or wet drilling shall be followed to control dust at source of emission during drilling.
- Sharp drill bits will be used for drilling and regrinding will be done periodically to reduce the dust generation.
- Controlled blasting to reduce dust emission and reduction in NOx emission

- All machineries and transport vehicles shall be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Records for same to be maintained.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kaccha road shall be done.
- Water sprinkling at loading area shall be done
- Use of personal protective equipment like dust mask e.t.c shall be put in practice
- Ambient air pollution monitoring shall be carried out every six months.

RISK ASSESSMENT

The hazard identification and risk analysis is done using qualitative method:

Probability/Likelihood of Occurrence of Hazard

Likelihood Level	Probability	Description
L5	Very Unlikely	Has not occurred/reported within last 5 years.
L4	Remote / Moderate	May occur if conditions exist. Has occurred within last 3 years.
L3	Occasional	Likely to occur if conditions exist. Has occurred within last 2 years.
L2	Probable	Very likely to occur. Has occurred within last year.
L1	Frequent	Almost certain to occur. Has occurred more than one within last year.

Severity/Impact Intensity

Severity Level	Severity	Description
C1	Catastrophic	May commonly cause death or major system loss, There by requiring immediate cessation of the unsafe activity or operation.
C2	Major	May commonly cause severe injury or illness or major system damage thereby requiring immediate corrective action.
C3	Moderate	Minor injury to personnel or environment
C4	Minor	Minor damage but does not cause injury to personnel
C5	Insignificant	May result in no, or less minor, illness, injuryor system damage

Risk Assessment Chart (Qualitative Method)

Risk Rank (Likelihood x	L5 (Very	L4	L3	L2	L1

Consequence)	Unlikely)	(Remote)	(Occasional)	(Probable)	(Frequent)
C1 (Catastrophic)	5	4	3	2	1
C2 (Major)	10	8	6	4	2
C3 (Moderate)	15	12	9	6	3
C4 (Minor)	20	16	12	8	4
C5 (Insignificant)	25	20	15	10	5

Risk Rating Scale

S. No.	Rating	Scale
1	High Risk	1-4
2	Medium Risk	5-12
3	Low Risk	13-25

Hazard identification & Risk Analysis in Stone mining operation

S. No.	Activity	Hazard	Probability	Severity	Score
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading	Very Unlikely	Minor	20

		material, Exposure to Dust			
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Face Stability

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the following measures will be taken:

- Overall slope angles of benches will be maintained at 45°
- Unmanageable heights are not created
- Loose sides are properly dressed
- No tree, loose stone or debris will be permitted to remain within 3 meters of the edge or side of any excavation (Regulation 106(4) of MMR 1961)
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them.

While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.

- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.
The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.
The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling.
Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favorable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers
- Explosives and detonators shall not be carried in the same container
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks / tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.

- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required)
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Jockmari (Guttibera) Stone Mine of M/s Maa Jagdambe Stone Works (Partner : Shri Amit Kumar & Shri Bipin Kumar), Village : Jockmari (Guttibera), Thana : Jirwabari, Thana no. : 13, Distt. : Sahibganj, Jharkhand (1.83 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The unit is situated inside the negative supporting carrying capacity grid – 04. Allowable mining capacity in grid -04 is 2655 TPD and present capacity of grid – 04 is 2386.49 TPD. Hence, the production capacity of the mine shall not exceed 150 TPD.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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19. 62, Circular Road Complex of M/s FEACON Construction & Industries Pvt. Ltd., Village : Konka, Tehsil : Sadar, Distt. : Ranchi, Jharkhand.

(Proposal no.: SIA/JH/INFRA2/ 533777 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

This is an expansion project which has been taken for appraisal on 10.05.2025.

Project Sector: 8(a) Building and Construction Projects , Category: B2.

Application for Environment Clearance (EC) as per EIA notification, 2006.

Project Brief

Project Name	62, Circular Road Complex	
Proponent Name	M/s FEACON Constructions & Industries Pvt. Ltd. Through Managing Director Kumud Kumar Jha	
Plot No.	**MS 1609**	
Mauza	Konka	
Tehsil	Sadar	
District	Ranchi	
State	Jharkhand	
Plot Area & its Break-Up	**As per Previous EC**	**As per Proposal**
	Total Plot Area as per sale deed is 8698.86 sq. m. **Break-up** Common Area for plantation = 854.14 sq. m. Surrender for road widening = 160.58 sq. m. Available Plot Area = 7684.14 sq. m. Ground Coverage Area Proposed = 3989.73 sq. m. (46.73%)	Total Plot Area as per sale deed is 8698.86 sq. m. **Break-up** Common Area for plantation = 1828.23 sq. m. Surrender for road widening = 153.88 sq. m. Available Plot Area = 6716.49 sq. m. Ground Coverage Area Proposed = 2986.95 sq. m. (34.96%)
FAR (Permissible : 3.00)	Previous : 2.49	Proposed : 2.96
Height from street level	Previous : 31.82 m	Proposed : 52.46 m
Total Built-Up Area & its break – up		
Floor	**As per Previous EC**	**As per Proposal**
Basement First Floor	4651.44 ***(Construction work completed)***	4996.03

Basement Second Floor	4657.44	4996.03
Lower Ground Floor	4630.05	4231.64
Ground Floor	4167.00	3208.39
First Floor	4209.47	3393.71
Second Floor	3135.28	3393.7
Third Floor	3616.78	3588.56
Fourth Floor	1395.97	3197.23
Fifth Floor	965.33	476.59
Sixth Floor	965.33	954.35
Seventh Floor	965.33	959.05
Eighth Floor	965.33	959.05
Ninth Floor	965.33	959.05
Tenth Floor	105.64	959.05
Eleventh Floor	0	959.05
Twelfth Floor	0	959.05
Thirteenth Floor	0	959.05
Fourteenth Floor	0	959.05
Fifteenth Floor	0	223.89
TOTAL	35519.30	40332.52
Floor	**As per Previous EC : 11**	**Proposed :** 15
Building Block	**As per Previous EC :** 1	**Proposed : 1**
Building Configuration	**As per Previous EC** 3 BHK : 28 Restaurants :5 Shops : 30 Auditorium : 1 Total : 64	**Proposed** 3BHK : 36 Shops : 24 Offices : 11 Cinema / Auditorium : 1 Restaurant : 5 Total : 77
Population	**As per Previous EC :** 2414 persons including floating population	**Proposed :** 2442.00 persons including floating population
Parking	**As per Previous EC** Car Parking – 227 Visitor's Car Parking - 4 Two Wheeler Parking – 601	**Proposed** Car Parking – 248 Visitor's Car Parking - 4 Two Wheeler Parking – 550

Power Requirement	**As per Previous EC :** 678 KVA	**Proposed :** 73,54,192.00 kWh per year after 20% Energy Conservation i.e. 58,83,353.60 kWh per year
Back-Up Power	**As per Previous EC :** 350 KVA	**Proposed :** 400 KVA
Renewal Energy	**As per Previous EC:** 0 KVA	**Proposed :** 73,541.92 kWh per Year
Rainwater Harvesting Pit	**As per Previous EC:** 2 Pits	**Proposed :** 2 Pits
Plantation	**As per Previous EC:** 854.14 Sq. m.	**Proposed** Tree Cover 1582.90 Sq.m. NOTE : 18.2 % of plot area Playground : 245.32 Sq. m.
Population	**As per Previous EC:** 2414 persons including floating population	**Proposed :** 2442.00 persons including floating population
Parking	**As per Previous EC:** Car Parking – 227 Visitor's Car Parking - 4 Two Wheeler Parking – 601	**Proposed** Car Parking – 248 Visitor's Car Parking - 4 Two Wheeler Parking – 550
Municipal Solid Waste	**As per Previous EC:** Municipal Solid Waste : 1448.41 Kg / Day Bio-Degradable : 579.36 Kg / Day Non- Bio-Degradable : 869.05 Kg / Day	**Proposed** Municipal Solid Waste : 1465.20 Kg / Day Bio-Degradable : 586.08 Kg / Day Non- Bio-Degradable : 879.12 Kg / Day
Fresh Water Demand	**As per Previous EC:** 75.06 KLD	**Proposed :** 79.21 KLD
Treated Water Demand	**As per Previous EC:** 51.61 KLD	**Proposed :** 78.48 KLD
Total Water Demand	**As per Previous EC:** 164.39 KLD	**Proposed :** 157.69 KLD
Quantity of Waste Water	**As per Previous EC:** 111.66 KLD	**Proposed :** 116.84 KLD
STP	**As per Previous EC:** 120 KLD	**Proposed :** 130 KLD
Project Cost	**As per Previous EC:** Rs. 95,58,17,753.65	**Proposed** Rs. 98,90,00,000.00

LAND DETAILS

Plot no.
MS 1609

Population Calculation

Type of Building	Dwelling Unit (DU) 3 BHK - 6	Unit (X sq. m. per person)	Area (Sq. m.)	Population as per NBC	Population as per Calculation
Residential	36.00	--	--	--	238.00
Shop on Street	--	3.00	3581.94	1193.98	1194.00
Shop above Street	--	6.00	3505.68	584.28	585.00
Office	--	10.00	2267.79	226.78	227.00
Restaurant	--	5.00	2930.12	586.02	133.00
Cinema Hall & Auditorium	--	5.00	320.76	64.15	65.00
TOTAL					**2442.00**

Water Demand

Construction Phase

Potable : 8 KLD
Flushing : 12 KLD
Construction work : 110 KLD
Water Sprinkling : 25 KLD
Total : 155 KLD

Source – Municipal Water Supply / Municipal Tanker Supply / Ground Water

Operational Phase

Type of Building	Population	As per NBC (unit Litre)		As per Calculation (unit Litre)		TOTAL (unit : KLD)
		Domestic	Flushing	Domestic	Flushing	
Residential	238.00	90.00	45.00	21420.00	10710.00	32.13
Shop on Street	1194.00	25.00	20.00	29850.00	23880.00	53.73
Shop above Street	585.00	25.00	20.00	14625.00	11700.00	26.33
Office	227.00	25.00	20.00	5675.00	4540.00	10.22
Restaurant	133.00	55.00	15.00	7315.00	1995.00	9.31
Cinema Hall	65.00	5.00	10.00	325.00	650.00	0.98

& Auditorium						
			TOTAL	**79210.00**	**53475.00**	**132.69**

Waste Water Calculation

STP Calculation (KLD)			
Total Domestic Water	79.21	63.37	80% of Domestic Water is Waste Water
Total Flushing Water	53.48	53.48	100% of Flushing Water is Waste Water
Total Volume of Waste Water		*116.84*	
STP Capacity		**130.00**	

Waste Water Management (KLD)	
Loss 20 % i.e. loss on account of evaporation, loss in conveyance and processing	23.37
Volume of Treated Water from STP (80% of Waste Water	93.47
Break-Up of Treated Water i.e. 93.47 KLD	
Flushing	53.48
Horticulture	15.00
Dust Suppression	5.00
Car Washing	5.00
Treated Water discharge into Municipal Drain	15.00

Solid Waste Management @ Operational Phase

Building Type	**Municipal Solid Waste**	**Bio-degradable (40% of MSW)**	**Non-Biodegradable (60% of MSW)**
Residential Building @0.6 Kg per Person per Day	142.80Kg / Day	57.12Kg / Day	85.68Kg / Day
Commercial Building @0.2 Kg per Person per Day	1322.40Kg / Day	528.96Kg / Day	793.44Kg / Day
Total	**1465.20Kg / Day**	**586.08Kg / Day**	**879.12Kg / Day**

Solid Waste Management

Construction Phase

Solid Waste generated during construction phase would include top soil, brick bats, pieces of reinforcing roads, pieces of wood boards & waste of other construction material, cans of paints electrical wire, etc.

Top Soil would be separately stored at pre-defined location within the site & preserved for landscaping. Sub – Soil would be stored for reuse in road making, plinth filling, etc.

Brickbats wastes of concrete would also be stored for road construction, etc. Surplus C & D waste would be handed over to Municipal Solid Waste Management Facility. E-Waste & Hazardous waste (cans of paints_ would be collected in separates containers. Recyclable wastes including bags, packing, pcs of steel rods sold to rag pickers.

Operational Phase

Estimated quantity of municipal solid waste Community building & residential building.

During operational phase of buildings municipal solid waste would be generated. They would be stored in different colour bins.

Recyclable Waste	- Blue
Non-Biodegradable Waste	- Black
Bio-Degradable Waste	- Green
E-Waste	- Yellow
Hazardous Waste	- Red

Recyclable Wastes would be handed to rag pickers.
Bio-Degradable Waste would be treated into Organic Waste Convertor (OWC) and the product will be utilize as fertilizer.
E-Waste & Hazardous Wastes would be handed over to authorized recyclers.

Energy Conservation Measures

Replacing 2 x 13W Down lighter in lift lobby with 17W LED.
Replacing T5 Tubelight in staircase with 20W LED.
Replacing 70W MHL Street lights with 40W LED.
Providing 100% of Street lights & common lighting on SOLAR.
Replacing normal lighting with LED for Landscape.
Using Variable Frequency Drive (VFD) for Lift machines, we can save 10% of consumption.
By using Regenerative type lifts, we can save 30% of Consumption.
By using Energy efficient motors, we can save 10% of energy.

CONNECTIVITY

Nearest Railway is Ranchi Railway Station which is about 2.80 Km & Namkum Railway Station, which is about 4.97 Km.
Nearest Airport is Birsa Munda Airport which is about 7.64 Km.

ENVIRONMENT SENSITIVITY AREA

Waterbody

Ranchi Lake 1.76 Km
Kanke Dam 3.38 Km

Dhurwa Dam 11.53 Km
Subarnarekha River 4.87 Km

Social Infrastructure

Orchid Hospital Centre 0.45 Km
Raj Hospital 2.29 Km
RIMS 2.08 Km
Sadar Hospital 1.07 Km
Zila School 1.27 Km
DPS 4.00 Km

Project Cost

Particulars	**Amount (INR)**
Construction Cost	73,78,08,908.00
Land	21,50,00,000.00
EMP	1,23,00,000.00
Statutory Clearance & Other	2,38,91,092.00
Total	**98,90,00,000.00**

Statutory Clearances :

1	Land Docs	:	Owned land :M/s FEACON Construction & Industries Pvt. Ltd.
2	DFO Territorial	:	DFO, Ranchi Forest Division vide letter no. 1362, dated 19.05.2021 certified that the distance of reserved / protected forest is more than 250 meters from project site.
3	DFO Wildlife	:	DFO, Wildlife Division, Ranchi vide memo no. 493, dated 26.06.2021 certified that proposed project site is out side Eco Sensitive Zone of Palkot Wildlife Sanctuary.
4	CO certificate	:	The CO, Shahar, Ranchi vide memo no. 229 (ii), dated 06.04.2021 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan & Register II.
5	AAI NOC	:	Airport authority of India issued NOC vide NOC ID no. RANC /EAST /B/ 091420/480070, dated 15.09.2020.
6	Building Plan approval	:	i. Building plan approved by Ranchi Municipal Corporation vide memo no. RMC/BP/1596/W18/2019, dated 26.06.2021.

			ii. Building plan approved by Ranchi Municipal Corporation vide memo no. RMC/BP/0493/W18/2022, dated 10.06.2022.
7	Fire Department	:	Fire Advisory has been issued by Fire Department, Jharkhand, Ranchi, vide memo no. 1853/Tech./2020, dated 07.09.2020.
8	Previous Environmental Clearance (EC)	:	Previous EC granted by SEIAA vide letter no. EC/SEIAA/2021-22/2391/2021/85, dated 14.08.2021.
9	Certified Compliance Report of Previous EC	:	Compliance report of previous EC certified by JSPCB vide memo no. 825, dated 20.03.2025.
10	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. No. JSPCB/HO/RNC/CTE-11034057/2021/308, dated 23.11.2021.

Based on the presentation made and information provided, the Committee decided that the proposal for 62, Circular Road Complex of M/s FEACON Construction & Industries Pvt. Ltd., Village : Konka, Tehsil : Sadar, Distt. : Ranchi, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure –I alongwith the following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

VI. Developers to offsets energy consumption by solar generation of not less than 02 % of connected load.

VII. Trees should be developed & maintained not less than 15% of project area.

VIII. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.

IX. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

X. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is harvested including usage within the premises only on 100% basis.

XI. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XII. Water runoff originating from open non constructed areas of project premises to be harvested /guided in such a way that it does not create water logging condition outside.

XIII. Sufficient number of EV fast charging stations to be installed.

XIV. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XV. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

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20. West Bokaro NOPR Township Project of Tata Steel Ltd., Mauza : Bhuyadih, Tehsil & Thana : Mandu, Distt. : Ramgarh, Jharkhand.

(Proposal no.: SIA/JH/INFRA2/ 516719 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

This is an expansion project which has been taken for appraisal on 10.05.2025.

Project Sector: 8(a) Building and Construction Projects , Category: B2.

Application for Environment Clearance (EC) as per EIA notification, 2006.

Particular	**Details**			
Project Name	**West Bokaro NOPR Township Project of Tata Steel Ltd.**			
Proponent	Tata Steel Limited West Bokaro Division, Ghatotand-825314			
Type of Building	Residential			
Coordinate	23°44'17.41"N 85°35'49.62"E			
Plot No.	264(P),	262, 256,	263,	259

	306(P)	309(P), 308(P), 258, 260, 304(P)	239(P), 270, 272, 273	
Khata No.	8	15	17	41
Mauza	Bhuyadih			
Tehsil	Mandu			
District	Ramgarh			
State	Jharkhand			
Plot Area	37801.33 Sq.m.			
Ground Coverage Permissible	50%			
Ground Coverage Consume	25.1% (7271.96 Sq.m.)			
FAR Permissible	2.5			
FAR Consume	1.678			
Height	33.60 m			
Total Built-Up Area	56912.86 Sq.m.			
No. of Floor	G+10			
No. of Building Block	5			
Building Configuration	NOPR Building Block (2 BHK)			
Municipal Solid Waste	1348.9 Kg / Day including Bio-degradable (40% of MSW) : 539.56 Kg / Day & Non-Biodegradable (60% of MSW) : 809.34 Kg / Day			
Population	2489 including 10% floating population			
Parking	Ambulance Parking 02 Bus 06 4-Wheeler Car Parking 450 2-Wheeler Car Parking 400			
Power Requirement	3MW			
Energy Saving	Upto 20%			
Power Back-up	DG Set will be used for emergency requirement			
Renewal Energy	*1% of the total demand*			
RWH Pits	6			
Total Fresh Water Demand	367.825 KLD			
Total Treated Water Demand	167.780 KLD			
Volume of Waste Water	262.226 KLD			
Capacity of STP	300.00 KLD			
Project Cost	350Cr.			

LAND DETAILS

Khata no.	Plot no.
8	264 (P) & 306 (P)
15	262, 256, 309 (P), 308 (P), 258, 260 & 304 (P)
17	263, 239 (P), 270, 272 & 273

41	259

Estimated Population

Configuration	Number of Dwelling Units	Number of persons per flat as per NBC	Population
NOPR Building Block 2BHK *Floor : G+10* *Block : 5* *8 flats per floor*	400	5	2000
10% floating population			**200**
		Sub-Total	**2200**

Particulars	Area (sq.m)	NBC norms	Population	Fixed	Floating
Community Centre	390.94	10 Sq.m. per person	39	4	35
Re-creational Block	964.76	10 Sq.m. per person	97	10	87
Medical Dispensary	260.97	3 Sq.m. per person	87	9	78
Maintenance Office	162.58	10 Sq.m. per person	16	2	14
Shop & ATM	147.66	3 Sq.m. per person	50	5	45
		Sub-Total	**289**	**29**	**260**
		Grand Total	**2489**		

WATER & WASTEWATER

Water Demand

	Domestic @90L Per head		Flushing @45L per head	
NOPR Building Block	198		99	
	Fix		Floating	
	Domestic @25L per head	Flushing @20L per head	Domestic @5L per head	Flushing @10L per head
Community Centre	0.1	0.08	0.175	0.35
Re-creational Block	0.25	0.2	0.435	0.87
Medical Dispensary	0.225	0.18	0.39	0.78
Maintenance Office	0.05	0.04	0.07	0.14
Shop & ATM	0.125	0.1	0.225	0.45
Sub-Total	**0.75**	**0.6**	**1.295**	**2.59**

Horticulture	33.87
Dust Suppression	31.72
Total Water Demand	**367.825**
Total Fresh Water Demand	**200.045**
Total Treated Water Demand	**167.780**

Source: Fresh Water from Municipal Water Supply System & Treated Water from Sewage Treatment Plant (STP)

WASTE WATER MANAGEMENT

STP Calculation (KLD)			
Total Domestic Water	200.045	160.04	*80% of Domestic Water is Waste Water*
Total Flushing Water	102.19	102.19	*100% of Flushing Water is Waste Water*
Total Volume of Waste Water		**262.23**	
STP Capacity		**300.00**	

Waste Water Management (KLD)	
Volume of Treated Water from STP *i.e., 80% of Waste Water*	209.78
Loss 20 % loss on account of evaporation, loss in conveyance and processing.	52.45
Break-Up	
Flushing	102.19
Horticulture	33.87
Dust Suppression	31.72
Discharge (Utilization in own facilities)	42.00

Connectivity

Highway	Nearest Highway is NH-33 (bypass) which is about 0.86 Km away.
Railway	Nearest Railway is Chainpur Railway Station, which is about 1.5 Km.
Airport	Nearest Airport is Bokaro Airport which is about 57.31 Km.
ESZ	Not within 15 km
Waterbody	Bokaro Nadi (2.80 Km) Tenughat (16.52 Km)
Forest	Nearest Forest 660 m as per DFO Certificate Lugu Pahar (8.00 Km)
Defense Installation	Not Within 15 Km

Social Infr	Janta +2 High School, Chainpur (1 Km) Tata DAV Public School, Chainpur (2.35 Km) Government School Nawadih (1.70 Km) CCL Hospital (5.16 Km) The Hope Hospital (12.30 Km) Ghantotand Post Office (5.94 Km) Kuju Post Office (9.00 km)

❖ **Solid Waste Management**

Construction Phase

Solid Waste generated during construction phase would include top soil, brick bats, pieces of reinforcing roads, pieces of wood boards & waste of other construction material, cans of paints electrical wire, etc.

Top Soil would be separately stored at pre-defined location within the site & preserved for landscaping. Sub – Soil would be stored for reuse in road making, plinth filling, etc.

Brickbats wastes of concrete would also be stored for road construction, etc. Surplus C & D waste would be handed over to Municipal Solid Waste Management Facility. E-Waste & Hazardous waste (cans of paints_ would be collected in separates containers. Recyclable wastes including bags, packing, pcs of steel rods sold to rag pickers.

Operational Phase

Estimated quantity of municipal solid waste Community building & residential building.

During operational phase of buildings municipal solid waste would be generated. They would be stored in different colour bins.

- ✓ Recyclable Waste - Blue
- ✓ Non-Biodegradable Waste - Black
- ✓ Bio-Degradable Waste - Green
- ✓ E-Waste - Yellow
- ✓ Hazardous Waste - Red

Recyclable Wastes would be handed to rag pickers.

Bio-Degradable Waste would be treated in bio-methenation plant and the product will be utilize as fertilizer.

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Energy Conservation Measures

- ✓ Replacing 2 x 13W Down lighter in lift lobby with 17W LED.
- ✓ Replacing T5 Tubelight in staircase with 20W LED.
- ✓ Replacing 70W MHL Street lights with 40W LED.
- ✓ Providing 100% of Street lights & common lighting on **SOLAR.**
- ✓ Replacing normal lighting with LED for Landscape.
- ✓ Using Variable Frequency Drive (VFD) for Lift machines, we can save 10% of consumption.
- ✓ By using Regenerative type lifts, we can save 30% of Consumption.
- ✓ By using Energy efficient motors, we can save 10% of energy.

Statutory Clearances :

1	Land Docs	:	Owned land : Tata Steel Limited.
2	DFO Territorial	:	DFO, Ramgarh Forest Division vide letter no. 2302, dated 11.12.2024 certified that the distance of reserved / protected forest is more than 250 meters from project site.
3	DFO Wildlife	:	DFO, Wildlife Division, Hazaribag vide letter no. 2483, dated 14.12.2024 certified that proposed project site is out side Eco Sensitive Zone of Hazaribag Wildlife Sanctuary.
4	CO certificate	:	The CO, Mandu (Ramgarh) vide letter dated 25.01.2025 has mentioned the plot no. of the project is not recorded as "Jangle Jhari" in R.S. Khatiyan & Register II.
5	AAI NOC	:	The PAs have given an undertaking stating that NOC from AAI is not applicable for this project.
6	Building Plan approval	:	Conceptual Plan submitted.
7	Fire Department	:	Fire Advisory has been issued by Fire Department, Jharkhand, Ranchi, vide memo no. 8068/Tech./2024, dated 09.12.2024.

Based on the presentation made and information provided, the Committee decided that the proposal for West Bokaro NOPR Township Project of Tata Steel Ltd., Mauza : Bhuyadih, Tehsil & Thana : Mandu, Distt. : Ramgarh, Jharkhand is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – I alongwith the following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. Ground water to be drawn for use in the project only after obtaining permission from the Competent Authority.

III. Environment management system including organization structure to be drawn to ensure compliance of EC conditions stipulated based on principles of Continual Improvement and periodical management review.

IV. All raw material to be stored only under covered shed.

V. PAs to offset (upto20%) consumption of conventional energy sources by promoting use of solar energy, passive energy utilization, optimum fenestration, shading effect and heat islands.

VI. Developers to offsets energy consumption by solar generation of not less than 05 % of connected load.

VII. Trees should be developed & maintained not less than 15% of project area.

VIII. Organic Waste Converter (OWC) to be installed of sufficient capacity such that all organic waste (bio degradable) generated is composted at source only.

IX. Developers/Company to install STP of sufficient capacity such that all the sewer produced is treated and reused.

X. Developers/Company to install Rain water harvesting structures such that all the roof top water runoff is harvested including usage within the premises only on 100% basis.

XI. Developers/Company to conduct and submit carbon footprint and carbon sequestration study report including mitigation measures as a part of EC compliance.

XII. Water runoff originating from open non constructed areas of project premises to be harvested /guided in such a way that it does not create water logging condition outside.

XIII. Sufficient number of EV fast charging stations to be installed.

XIV. MSW Collection centre should be located in isolated and preferably unmanned area. Movement of the vehicle carrying waste should be under tarpaulin covered condition only. Route of vehicle should be such that it avoids residential areas as far as practical.

XV. ISO 14k EMS system standard to be followed for implementation of EMPs with MRM in place for feedback to Sr management.

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21. Nawadih & Kasaiya Stone Mine of M/s Muva Industries Limited (Prop. : Shri Rajesh Kumar Kedia), Village : Nawadih & Kasaiya, Thana : Madhupur, Distt. : Deoghar, Jharkhand (2.67 Ha).

(Proposal no.: SIA/JH/MIN/ 502768 /2024)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Deoghar).

The project has been granted EC by DEIAA, Deoghar vide letter no. 03/M, dated 19.04.2017.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Deoghar which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per memo no. 426/M, dated 16.04.2025 by DMO, Deoghar is within the permissible limit of EC.

The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 102, dated 24.01.2025.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity – 60,000 Tonnes / Year or 200 Tonnes per day

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Nawadih and Kasaiya Stone Mine	
2	Lessee:	:	M/S Muva Industries Limited Director – Rajesh Kumar Kedia	
3	Lessee Address	:	At & P.O – Jagdishpur, P.S – Madhupur, District – Deoghar, Jharkhand	
4	Lease Area	:	2.67 Ha	Acres- 6.60 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs 1543000	Recurring: Rs 10507000 per year
7	EMP Budget	:	Capital: Rs 843000	Recurring: 1005200 per year
8	New or Expansion	:	Re-appraisal of DEIAA EC	
9	Mineable Reserves	:	Tonnes: 600129 tonnes	222270 Cum
10	Mine Life	:	Up to the lease period i.e. 22.01.2017 to 21.01.2027.	
11	Man power	:	27	
12	Water	:	23.36 KLD	

	Requirement		
13	Water Source	:	By authorised hired water tankers
14	DG Set / power	:	-
15	Crusher	:	No crusher
16	Nearest Water Body	:	Ajay River 9.83 Km
17	Nearest Habitation	:	Basaha at a distance of 1.55 km.
18	Nearest Rail Station	:	Madhupur Railway Station 9 Km
19	Nearest Air Port	:	Deoghar Airport – 35 KM
20	Nearest Forest	:	Not within 250m as per DFO, Deoghar
21	Road & Highways	:	NH- 114A at 9.21Km.

CO-ORDINATES

SL. NO	LATITUDE	LONGITUDE
1	24°13'48.94583" N	86°40'22.82959" E
2	24°13'49.01927" N	86°40'23.38104" E
3	24°13'48.41638" N	86°40'23.85541" E
4	24°13'47.56116" N	86°40'24.61184" E
5	24°13'46.49844" N	86°40'25.78771" E
6	24°13'46.44134" N	86°40'26.52827" E
7	24°13'46.35016" N	86°40'27.71051" E
8	24°13'46.28935" N	86°40'28.49898" E
9	24°13'45.75425" N	86°40'27.86243" E
10	24°13'45.26472" N	86°40'27.28013" E
11	24°13'44.26072" N	86°40'28.47036" E
12	24°13'43.63198" N	86°40'28.93354" E
13	24°13'43.60674" N	86°40'29.19814" E
14	24°13'42.86107" N	86°40'30.29952" E
15	24°13'42.53545" N	86°40'30.91483" E
16	24°13'42.10651" N	86°40'31.47413" E
17	24°13'40.25586" N	86°40'33.01266" E
18	24°13'38.52012" N	86°40'33.98329" E
19	24°13'37.31218" N	86°40'34.32878" E
20	24°13'36.95700" N	86°40'34.70117" E
21	24°13'36.80947" N	86°40'35.02348" E
22	24°13'36.76508" N	86°40'35.47279" E
23	24°13'36.51053" N	86°40'35.92654" E
24	24°13'36.19913" N	86°40'36.64452" E
25	24°13'35.85983" N	86°40'36.98638" E
26	24°13'35.53961" N	86°40'37.05989" E
27	24°13'34.99021" N	86°40'37.62415" E
28	24°13'34.42166" N	86°40'37.67070" E
29	24°13'36.13598" N	86°40'33.86330" E
30	24°13'37.65846" N	86°40'32.67131" E

31	24°13'37.93145" N	86°40'32.85437" E
32	24°13'38.57128" N	86°40'32.74579" E
33	24°13'38.87486" N	86°40'32.30598" E
34	24°13'38.26546" N	86°40'32.14430" E
35	24°13'40.04234" N	86°40'30.31608" E
36	24°13'44.00627" N	86°40'26.66582" E
37	24°13'46.58927" N	86°40'23.93324" E
38	24°13'47.00705" N	86°40'23.76894" E
39	24°13'47.65066" N	86°40'23.02990" E
40	24°13'48.01674" N	86°40'22.83197" E

LAND DETAILS

Khata no.	Plot no.
34	01
61	1798

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 22.01.2017 to 21.01.2027.
2	CO	:	The CO, Karon vide letter no. 118/Ra., dated 27.02.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 66/M, dated 22.01.2025 certified that no other mining lease area exists within 500 m radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1675, dated 03.08.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1470, dated 28.11.2024 certified that the distance of reserved / protected forest is more than 250 meter from proposed project boundary.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Sl. no. 01, Page no. 25).
7	Gram Sabha	:	Gram Sabha conducted on 21.02.2015.
8	Scheme / Mine Plan Approval	:	i. Mining plan approved by AMO, Deoghar vide Letter No. 1564/M, dated 27.08.2015. ii. Mining scheme approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 246/DDM

			dated 09.09.2020.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by DEIAA, Deoghar vide letter no. 03/M, dated 19.04.2017.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by JSPCB, Regional Office, Dumka vide memo no. 102, dated 24.01.2025.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-1668226 /2017 /556, dated 13.10.2017.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. : JSPCB/RO/DMK/CTO-18894537 /2024/135, dated 04.05.2024.
13	Production Report	:	Production report issued by DMO, Deoghar vide memo no. 426/M, dated 16.04.2025.
14	Qualified Person	:	Shri I.P. Bhattacharya was present in the meeting and affirmed that the mining scheme has been prepared by him.

Working Details

1	Mining Method	:	Opencast other than fully mechanized (OTFM) Method	
2	Quarry Area	:	2.67 Ha	Life of Mine – Up to the lease period i.e. 22.01.2017 to 21.01.2027.
3	Waste Generation	:	37586 cum	
4	Stripping Ratio	:	1:0.97	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 3 in numbers	
7	Elevation of Mine	:	131 m AMSL to 126 m AMSL	
8	Ground Level Elevation	:	124 m AMSL	
9	Ultimate Working Depth	:	110 m AMSL	
10	Water Table	:	106 meter below the ground level.	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	21 kg/day (To be handle by licensed external Agency)	
13	Diesel/Fuel requirement	:	126 litre/day	

Production Details

Year	Production of Stone in Tonnes	Generation of OB
1st	60023	0
2nd	60027	0
3rd	*59999*	*0*
4th	59999	0
5th	60024	0

Land Use

Land Utilization	At plan period	At the end of Scheme period (Ha)	At Conceptual period (Ha)
Excavation	1.014	0.710	1.470
Waste Dump	0.00	0.00	0.00
Road	0.010	0.0	0.0
Infrastructure (Crusher)	0.00	Nil	Nil
Safety Zone Barrier	1.100	1.100	1.100
Total	0.932	1.810	2.57
Unused Area	0.546	0.546	0.100
Total Lease Area	2.67		

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	**Area (Ha.) or Length (m)**	**No. of tree**	**Calculation**	**Timeline**
Safety Zone	1.10	1760	1600 tree per hectare	1st Year
Approach Road	160.00	160	2m X 2m spacing	1st year
Dead Bench	0.00	0	1600 tree per hectare	End of Mine
Backfilled area (level upto surface)	0.00	0	1600 tree per hectare	End of Mine
TOTAL		**1920.00**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda, Strictus & other Native Species				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1920" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	576000	96000
Water Facility for Horticulture "11.52" KLD & Dust Suppression "10.68" KLD (Annual Water Demand "6660"KL @4KL per Tanker, total number of tanker required ("1665") and per tanker cost @Rs. 500)	0	832500
Garland Drain & Desiltation Pond	267000	26700
Environment Monitoring & Compliance	0	50000
Total	**843000**	**1005200**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

During first, second and third year gritty soil & intercalated waste will be removed (4206 m^3) this soil and waste will be temporarily backfill within the exhausted quarry and in removed

gritty soil, intercalated waste and existing temporary backfill soil will be backfilled within the lower bench of the exhausted quarry.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*

1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work

in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large

quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

The EMP Cell objectives are:

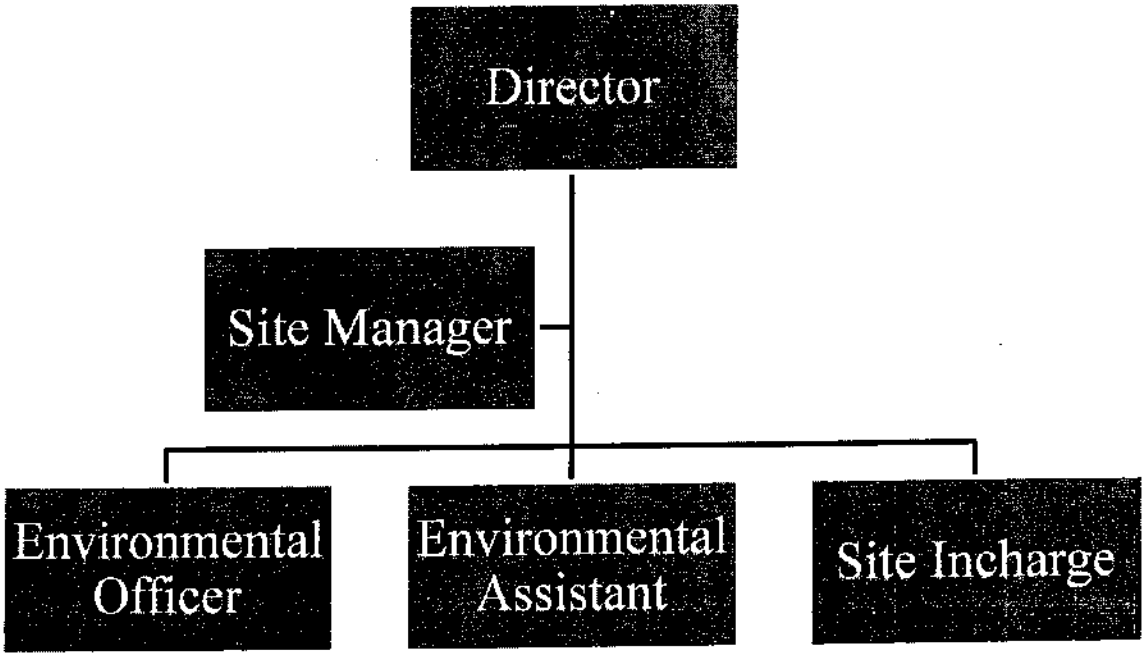
- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization

- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports

- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Nawadih & Kasaiya Stone Mine of M/s Muva Industries Limited (Prop. : Shri Rajesh Kumar Kedia), Village : Nawadih & Kasaiya, Thana : Madhupur, Distt. : Deoghar, Jharkhand (2.67 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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22. Mahadevdih Stone Mine of Shri Manish Jalan, Village : Mahadevdih, Anchal : Gandey, Distt. : Giridih, Jharkhand (1.21 Ha).

(Proposal no.: SIA/JH/MIN/ 531687 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand.

Application for Environmental Clearance (EC) (re-appraisal of Environment Clearance issued by DEIAA, Giridih).

The project has been granted EC by DEIAA, Giridih vide letter no. 22/EC/DEIAA/Giridih, dated 22.12.2016.

As per O.M. dated 28th April 2023 issued by MOEF & CC projects which have been granted EC by DEIAA are to be reappraised by SEIAA / SEAC.

This is re-appraisal of the EC issued by DEIAA, Giridih which has been taken up for consideration on 10.05.2025. As per O.M. dated 12.12.18 issued by MOEF & CC projects fall in category B2.

Existing baseline condition as per monitoring report submitted by PP is as follows PM10 -96 $\mu g/m^3$PM 2.5-567 $\mu g/m^3$ SO2-18.2 NO2- 19.0 $\mu g/m^3$ All the data are within the permissible limit.

Dust suppression is being carried out on regular basis.

Greenbelt Developed.

As per compliance report of JSPCB regarding previous EC, plantation has been done in safety zone.

Production detail as per letter no. 235/M, dated 27.03.2025 by DMO, Giridih is within the permissible limit of EC.

The compliance report of previous EC has been issued by Regional Office, JSPCB, Hazaribag vide memo no. 1921, dated 06.11.2024.

The SEAC has found that the certification of the compliance of the conditions of previous EC is not appropriate regarding status of execution of compliance as no details have been provided. Hence, the Committee decided to obtain a self certified compliance report along with the supporting details as evidence of execution.

The self certified compliance report has been submitted and also presented before the Committee.

EC Application for: Proposed Capacity – 23412 Tonnes/ annum or 78 Tonne per day

]Project and Location Details:

Sl	Parameter		Details
1	Project Name	:	Mahadeodih Stone Mine

2	Lessee:	:	Sri Manish Jalan	
3	Lessee Address	:	Address: Tundi Road, Darjee Mohalla, Post + Thana – Giridih, State – Jharkhand	
4	Lease Area	:	1.21 Ha.	3.0 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 1527400	Recurring: Rs. 8281000 per year
7	EMP Budget	:	Capital: Rs. 357400	Recurring: Rs. 460500 per year
8	New or Expansion	:	Re-appraisal of DEIAA EC	
9	Mineable Reserves	:	224915 Tonnes	
10	Mine Life	:	Up to the lease period i.e. 25.07.2017 to 24.07.2027.	
11	Man power	:	17	
12	Water Requirement	:	10.25 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Usri River at a distance of 0.20 Km	
17	Nearest Habitation	:	Mahadeodih Village at a distance of 0.5 km	
18	Nearest Rail Station	:	Giridih Railway Station (7.05 Km)	
19	Nearest Air Port	:	DeogharAirport (84 Km)	
20	Nearest Forest	:	Divisional Forest Officer, Giridih certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.	
21	Road & Highways	:	NH-114A- Giridih - Madhupur Road at about 7.5Km	

CO-ORDINATES:

PILLAR ID	LATITUDE	LONGITUDE
P1	24°09'31.43671" N	86°22'43.67255" E
P2	24°09'30.67571" N	86°22'44.87941" E
P3	24°09'30.05356" N	86°22'45.86606" E
P4	24°09'29.39922" N	86°22'46.90373" E
P5	24°09'28.89749" N	86°22'47.96994" E

P6	24°09'28.38902" N	86°22'49.05041" E
P7	24°09'27.93017" N	86°22'50.02547" E
P8	24°09'27.38786" N	86°22'49.30424" E
P9	24°09'27.09526" N	86°22'49.27987" E
P10	24°09'26.84124"	86°22'49.21547" E
P11	24°09'26.98538" N	86°22'48.69912" E
P12	24°09'26.91601" N	86°22'48.56819" E
P13	24°09'27.47164" N	86°22'47.69357" E
P14	24°09'27.72425" N	86°22'47.40168" E
P15	24°09'28.22414" N	86°22'46.36042" E
P16	24°09'28.62677" N	86°22'45.52590" E
P17	24°09'28.12212" N	86°22'45.24874" E
P18	24°09'27.53352" N	86°22'44.92549" E
P19	24°09'27.78775" N	86°22'44.16118" E
P20	24°09'28.06582" N	86°22'43.32536" E
P21	24°09'28.38510" N	86°22'42.36550" E
P22	24°09'29.05096" N	86°22'42.65072" E
P23	24°09'29.85610" N	86°22'42.99557" E
P24	24°09'30.65450" N	86°22'43.33753" E

LAND DETAILS

Khata no.	Plot no.
01	355 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	Lease deed : 25.07.2017 to 24.07.2027.
2	CO	:	The CO, Gandey, Giridih vide letter no. 767, dated 14.11.2015 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S. Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 37/M, dated 22.01.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.

4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2006, dated 13.09.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 2371, dated 17.12.2015 certified that the distance of forest is more than 250 meter from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Sl. no. 34, Page no. 36).
7	Gram Sabha	:	Gram Sabha conducted on 09.11.2015.
8	Scheme / Mine Plan Approval	:	i. Mine plan approved by AMO, Giridih vide letter no. 4198/M, Dated 19.12.2015. ii. Mining scheme approved by Additional Director, Geology, Hazaribag vide letter no. 359/G, dated 20.01.2021.
9	Previous Environmental Clearance (EC)	:	Previous EC granted by SEIAA, Jharkhand vide letter no. 22/EC/DEIAA/Giridih, dated 22.12.2016.
10	Compliance report of EC	:	The compliance report of previous EC has been issued by Regional Office, JSPCB, Hazaribag vide memo no. 1921, dated 06.11.2024.
11	Consent to Establish (CTE)	:	CTE issued by JSPCB vide Ref. no. JSPCB/HO/RNC/CTE-1856930 /2018/926, dated 30.08.2018.
12	Consent to Operate (CTO)	:	CTO issued by JSPCB vide ref. no. : JSPCB/RO/HZB/CTO-12873739 /2022/48, dated 16.04.2022.
13	Production Report	:	Production report issued by DMO, Giridih vide letter no. 235/M, dated 27.03.2025.
14	Qualified Person	:	Shri Tapan Kumar Chakravarty was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.78 Ha.	Life of Mine – Up to the lease period i.e. 25.07.2017 to 24.07.2027.
3	Waste Generation	:	0 cum	
4	Stripping Ratio	:	1:0.00	
5	Working Days	:	300	
6	Benches: size & No	:	3 m to 3 m and 5 in numbers	

7	Elevation of Mine	:	279 m AMSL to 276 m AMSL
8	Ground Level Elevation	:	274 m AMSL
9	Ultimate Working Depth	:	261 m AMSL
10	Water Table	:	241 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	10 kg/day (to be handled by external authorised agency)
13	Diesel/Fuel requirement	:	49 litre/day

Production Details

Year	Production of Stone in Tonnes	Production of Stone in cum	Overburden in cum
1st Year	23412	8671	0.0
2nd Year	23401	8667	0.0
3rd Year	23285	8624	0.0
4th Year	23323	8638	0.0
5th Year	23398	8666	0.0
Total	**116819**	**43266**	**0.0**

Land Use

Category	Existing Land Use	After Development Area	After Conceptual Area
	Area in Ha.	Area in Ha.	Area in Ha.
Quarry + Road	0.78	0.78	0.78 (Water reservoir)
Safety Zone	0.43	0.43 (within Safety Barrier)	0.43 (plantation)
Total area in use	**1.21**	**1.21**	**1.21**
Balance unused area	**0.00**	**0.00**	**0.00**
Total Lease Area	**1.21**	**1.21**	**1.21**

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	Number of Tree	Calculation	Timeline
Safety Zone (Ha.)	0.43	688	0.43 X 1600 = 688 2.5m X 2.5 m. Spacing triple row	1st Year
Approach Road (m)	100.00	100	2m X 2m Spacing in a single row	1 st Year
Total		**788**		

Species: *Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (In Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "788" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	236400.00	39400.00
Water Facility for Horticulture "4.728" KLD & Dust Suppression "4.84" KLD (Annual Water Demand "2870.4"KL @4KL per Tanker, total number of tanker required ("718") and per tanker cost @Rs. 500)	0.00	359000.00
Garland Drain & Desiltation Pond	121000.00	12100.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**357400.00**	**460500.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

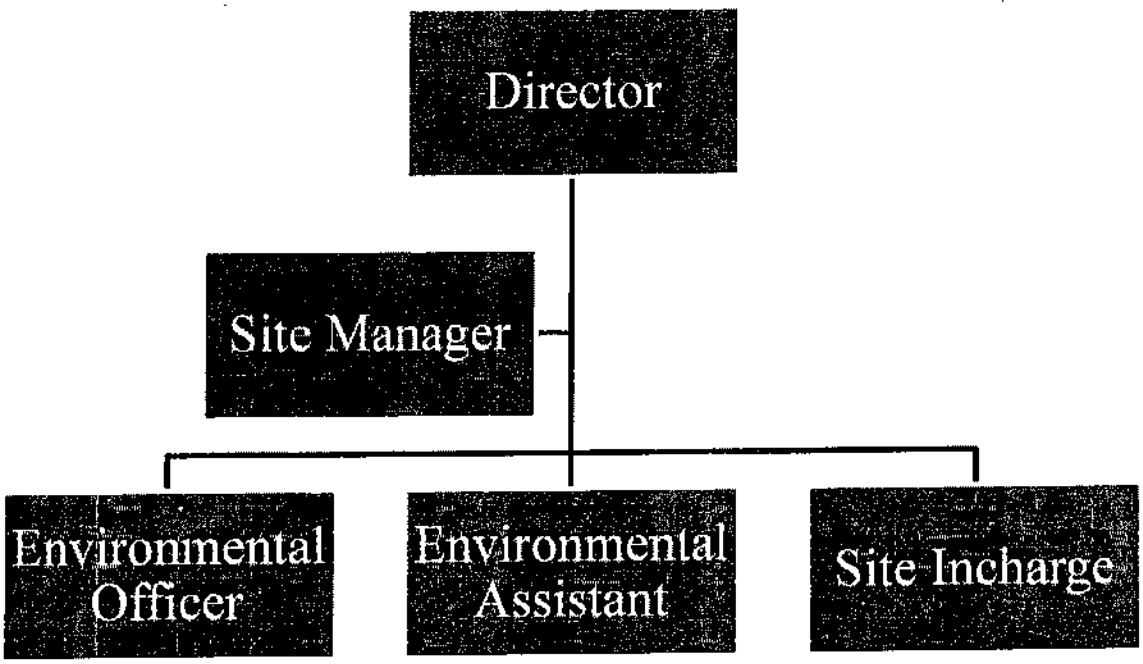
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs

- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments

Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP

2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated

12.12.18 decided that the proposal for Mahadevdih Stone Mine of Shri Manish Jalan, Village : Mahadevdih, Anchal : Gandey, Distt. : Giridih, Jharkhand (1.21 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. The production shall be restricted as per approved mining scheme or the approved mine plan at the time of EC, which ever is less.

II. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

III. During appraisal of the project, it is seen that the project authority have not fully complied the condition of green belt development as per the previous EC. Hence, the project authorities are required to plant twice the number of trees as was required in the previous EC. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

IV. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

V. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

VI. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VII. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VIII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

IX. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

23. Bara Stone Deposit of M/s Shiv Shakti Stone (Partners : (i) Shri Sandip Kumar Singh (ii) Shri Lavkesh Kumar (iii) Shri Amit Kumar (iv) Shri Niranjan Kumar Singh), Village : Bara, Anchal : Mohanpur, Distt. : Deoghar, Jharkhand (2.659 Ha).

(Proposal no.: SIA/JH/MIN/ 534432 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 169167 Tonnes per year or 62654 cum per year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bara Stone Deposit	
2	Lessee:	:	M/ Shiv Shakti Stone, Partner -1. -Sri Sandip Kumar Singh 2.- Sri Lavkesh Kumar 3. Amit Kumar 4. Sri Niranjan Kumar Singh	
3	Lessee Address	:	Address: Pindra Khurd, P.O. – Ghoghaghat, P.S. – Dobhi, District – Gaya, Bihar	
4	Lease Area	:	2.659 Ha	6.57 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 2190400	Recurring: Rs. 9275897 per year
7	EMP Budget	:	Capital: Rs. 954400	Recurring: Rs. 796340 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1513341 Tonnes	
10	Mine Life	:	10 Years	
11	Man power	:	15	
12	Water Requirement	:	16.732 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Goriyari Nadi at a distance of 2 km in North direction.	
17	Nearest Habitation	:	Bara Village ~~(0.38 Km)~~	
18	Nearest Rail Station	:	New Nawadih Railway Station at a distance of 2 km in West direction.	
19	Nearest Air Port	:	Deoghar Airport at a distance of 20 km in South direction.	

20	Nearest Forest	:	Divisional Forest Officer, Deoghar certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
21	Road & Highways	:	SH 22 Katoria – Deoghar Road at a distance of 4 km in West direction.

CO-ORDINATES

Pillar No	Latitude	Longitude
P1	N24°34'29.069"	E86°42'43.410"
P2	N24°34'27.965"	E86°42'45.255"
P3	N24°34'27.179"	E86°42'44.541"
P4	N24°34'26.828"	E86°42'45.675"
P5	N24°34'26.359"	E86°42'46.999"
P6	N24°34'24.578"	E86°42'46.297"
P7	N24°34'24.358"	E86°42'46.660"
P8	N24°34'22.638"	E86°42'45.432"
P9	N24°34'20.980"	E86°42'44.201"
P10	N24°34'22.169"	E86°42'42.949"
P11	N24°34'23.913"	E86°42'41.800"
P12	N24°34'24,699"	E86°42'40.662"
P13	N24°34'25.636"	E86°42'39.796"
P14	N24°34'25.761"	E86°42'39.525"
P15	N24°34'26.688"	E86°42'40.618"
P16	N24°34'28.009"	E86°42'42.176"

LAND DETAILS

Khata no.	Plot no.
23	1194 (P) & 1192 (P)
39	1193 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 886/M, dated 01.10.2024.
2	CO	:	The CO, Mohanpur vide letter no. 748/Ra., dated 16.07.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 388/M, dated 11.04.2025 certified that no other mining lease area exists within 500 meters radius

			from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2095, dated 26.09.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 995, dated 06.08.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 67, Sl. No. 33).
7	Gram Sabha	:	BDO, Mohanpur (Deoghar) vide letter no. 681/Vi., dated 13.07.2024 informed that Gram Sabha conducted on 13.07.2024.
8	Mine Plan Approval	:	Approved by The Assistant Director Geology, District Geological Office, Deoghar vide Memo No. 17/G, dated 25.01.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	1.534 Ha.	Life of Mine – 10 years
3	Waste Generation	:	53903 cum	
4	Stripping Ratio	:	1:0.07	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	244 m AMSL to 237 m AMSL	
8	Ground Level Elevation	:	235 m AMSL	
9	Ultimate Working Depth	:	202 m AMSL	
10	Water Table	:	195m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	56 kg/day (Managed by licenced external agency)	
13	Diesel/Fuel requirement	:	338 litre/day	

Production Details

Year	Production of Stone in cum	Production of stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum

1st Year	60112	162303	16250	3164	19414
2nd Year	62654	169167	3920	3298	7218
3rd Year	57722	155849	4816	3038	7854
4th Year	56392	152258	5896	2968	8864
5th Year	55822	150719	7616	2938	10554
Total	**292703**	**790297**	**38498**	**15405**	**53903**

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan Period (Ha)	At Conceptual period (Ha)
Excavation	0.0	1.534 (0.131 Ha area shall be Backfilled)	2.149 (0.557 Ha area shall be backfilled upto surface level, 1.286 Ha converted in to water reservoir & 0.305 Ha shall be left as dead benches)
Waste Dump	0.0	Nil (waste dump to be removed and backfilled)	Nil (waste dump to be removed and backfilled)
Road	0.0	0.003	0.0
Infrastructure (Crusher)	0.0	0.00	0.0
Safety Zone Plantation	0.0	0.510	0.510
Total	**0.0**	**2.047**	**2.659**
Unused Area	**2.659**	**0.612**	**0.00**
Total Lease Area	**2.659**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.51	816	0.51 X 1600 = 816 2.5m X 2.5 m. Spacing triple row	1st Year
Approach Road (m)	100.00	100	2m X 2m Spacing in a single row	1 st Year
Plantation on dead bench	0.305 Ha	488	0.305 X 1600 = 488	Mine closure
Plantation on backfilled area	0.557 Ha	891	0.557 X 1600 = 891	Mine closure
Total		**2295**		
Species: *Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation.

Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "2295" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	688500.00	114750.00
Water Facility for Horticulture "5.496" KLD & Dust Suppression "10.636" KLD (Annual Water Demand "4839.6"KL @4KL per Tanker, total number of tanker required "1210" and per tanker cost @Rs. 500)	0.00	605000.00
Garland Drain & Desiltation Pond	265900.00	26590.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**954400.00**	**796340.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

During first, second, third and fourth year gritty soil & intercalated waste will be removed (43350 m^3) this soil and waste will be backfill within the exhausted quarry and in fifth year (10554 m^3) removed gritty soil, intercalated waste and existing temporary backfill soil will be backfilled within the lower bench of the exhausted quarry.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is **"Acceptable"**

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

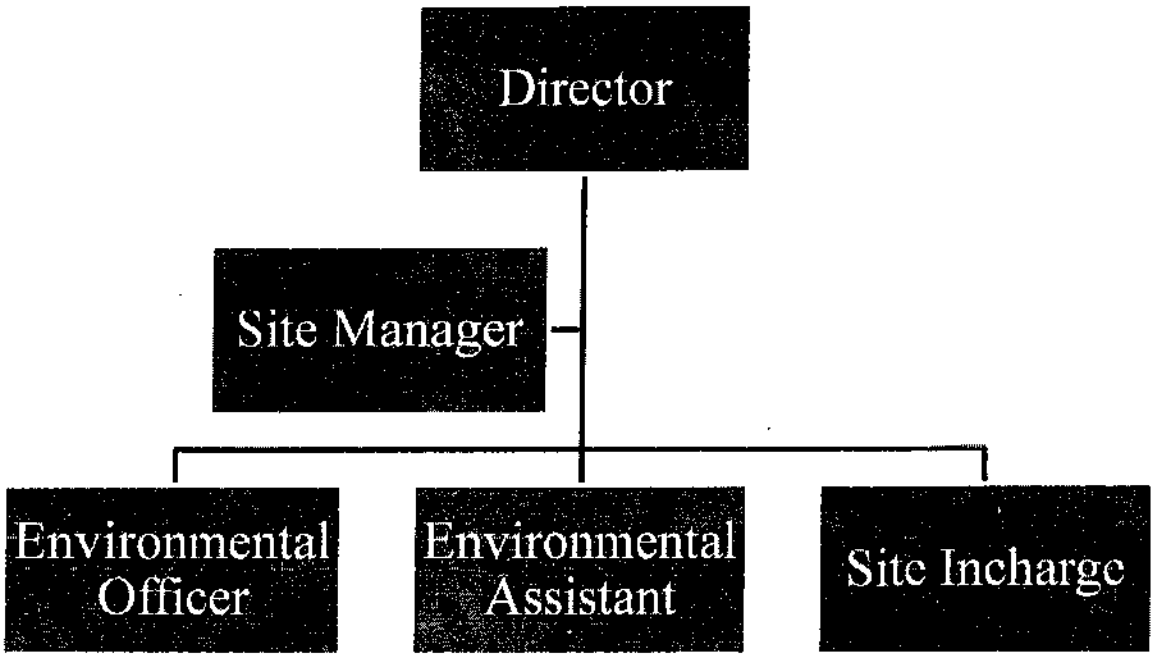
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs

- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bara Stone Deposit of M/s Shiv Shakti Stone (Partners : (i) Shri Sandip Kumar Singh (ii) Shri Lavkesh Kumar (iii) Shri Amit Kumar (iv) Shri Niranjan Kumar Singh), Village : Bara, Anchal : Mohanpur, Distt. : Deoghar, Jharkhand (2.659 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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24. Nawadih Stone Deposit of M/s Babadham Stone Works (Partners : Shri Rajesh Kumar Gupta & Shri Rusilal Marandi), Village : Nawadih, Anchal : Palojori, Distt. : Deoghar, Jharkhand (2.56 Ha).

(Proposal no.: SIA/JH/MIN/ 534417 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 285743 Tonnes per year or 102052 cum per year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Nawadih Stone Deposit	
2	Lessee:	:	M/s Babadham Stone Works, Partner -1. -Sri Rajesh Kumar Gupta 2. Sri Rusilal Marandi	
3	Lessee Address	:	Address: 1. At – Makatpur, Near Bengali school, P.O. + Thana + District – Giridih, Jharkhand 2. At- House No. 42, Chanda Nawadih, PO – Basaha, Thana – Palogori District – Deoghar,Jharkhand	
4	Lease Area	:	2.56 Ha.	6.34 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 2282800	Recurring : Rs. 19789950 per year
7	EMP Budget	:	Capital : Rs. 1082800	Recurring : Rs. 1217500 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1428643 Tonnes or 510230 cum	
10	Mine Life	:	5 Years	
11	Man power	:	51	
12	Water Requirement	:	28.82 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Ajay River – 9.83 Km in "N-W" direction	
17	Nearest Habitation	:	Basaha (1.55 Km)	
18	Nearest Rail Station	:	Chandanpahari Railway Station (21.10Km)	
19	Nearest Air Port	:	Deoghar Airport, (34.42 Km)	
20	Nearest Forest	:	Divisional Forest Officer, Deoghar certified that the distance of	

			reserved / protected forest is more than 250 meter from proposed project site.
21	Road & Highways	:	NH – 114A – 9.21 Km

CO-ORDINATES

Pillar No	Latitude	Longitude
P1	24°12'52.49" N	86°55'33.57" E
P2	24°12'51.23" N	86°55'35.55" E
P3	24°12'50.99" N	86°55'35.40" E
P4	24°12'50.79" N	86°55'36.23" E
P5	24°12'51.80" N	86°55'36.73" E
P6	24°12'51.02" N	86°55'36.80" E
P7	24°12'51.23" N	86°55'37.11" E
P8	24°12'51.72" N	86°55'36.19" E
P9	24°12'52.06" N	86°55'37.08" E
P10	24°12'51.41" N	86°55'38.74" E
P11	24°12'50.72 N	86°55'40.78" E
P12	24°12'49.71" N	86°55'40.32" E
P13	24°12'47.89" N	86°55'39.77" E
P14	24°12'46.13" N	86°55'39.50" E
P15	24°12'46.68" N	86°55'36.79" E
P16	24°12'47.24" N	86°55'35.57" E
P17	24°12'47.77" N	86°55'35.68" E
P18	24°12'48.52" N	86°55'34.03" E
P19	24°12'48.87" N	86°55'33.93" E
P20	24°12'49.17" N	86°55'32.53" E
P21	24°12'50.42" N	86°55'32.82" E
P22	24°12'51.68" N	86°55'33.11" E

LAND DETAILS

Khata no.	Plot no.
18	798, 799, 800 (P), 792 (P)
9/K	797 (P) & 1046 (P)
15	795

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 527/M, dated 06.05.2023.
2	CO	:	The CO, Palojori vide memo no. 425/Ra., dated 02.12.2022 has

			mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 408/M, dated 12.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 140, dated 21.01.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1771, dated 22.12.2022 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 66, Sl. No. 29).
7	Gram Sabha	:	Gram Sabha conducted on 19.11.2022.
8	Mine Plan Approval	:	Approved by Deputy Director Mines, Santhal Pargana Circle, Dumka vide Memo No. 311/DDM, dated 27.06.2023.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	2.0 Ha.	Life of Mine – 05 years
3	Waste Generation	:	36343 cum	
4	Stripping Ratio	:	1:0.03	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 7 in numbers	
7	Elevation of Mine	:	251 m AMSL to 248 m AMSL	
8	Ground Level Elevation	:	246m AMSL	
9	Ultimate Working Depth	:	203 m AMSL	
10	Water Table	:	186 AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	95 Kg (To be handle by licensed external Agency)	
13	Diesel/Fuel requirement	:	571 litre/day	

Production Details

Year	Removal of Gritty		Intercalated waste in cum	Production of Stone	
	in cum	in Tonnes		in cum	in tonnes
1st Year	5705	8558	5372	102050	285740
2nd Year	000	000	5370	102030	285684
3rd Year	3780	5670	5371	102048	285736
4th Year	000	000	5372	102050	285740
5th Year	000	000	5373	102052	285743
Total	**9485**	**14228**	**26858**	**510230**	**1428643**

Land Use

Type of Land	Present Land Use (in Ha)	At the End of Plan Period (in Ha)	At the End of Mine (in Ha)	Conceptual Period (in Ha)		
				Backfill	Water Body	Plantation
Quarry	0.12 (including water logged)	2.00 (Including backfilling 0.20)	2.00 (Including backfilling 0.20)	0.13	0.90	0.97 (Dead bench Plantation)
Greenbelt within Safety Barrier	Nil	0.56	0.56	-----	-----	0.56
Road	0.01	Nil	Nil	----	----	---
Total Area in Use	**0.13**	**2.56**	**2.56**	**0.13**	**0.90**	**1.53**
Balanced Area unused	2.43	Nil	Nil	-----	----	----
Total Applied Area	**2.56**	**2.56**	**2.56**	**2.56**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	**Area (Ha.) or Length (m)**	**No. of tree**	**Calculation**	**Timeline**
Safety Zone	0.56	896	1600 tree per hectare	1st Year
Approach Road	100.00	100	2m X 2m spacing	1st year
Dead Bench	0.97	1552	1600 tree per hectare	End of Mine
Backfilled area (level upto surface)	0.13	208	1600 tree per hectare	End of Mine
TOTAL		**2756.00**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda, Strictus & other Native Species				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary)

and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "2756" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	826800	137800
Water Facility for Horticulture "16.536" KLD & Dust Suppression "10.24" KLD (Annual Water Demand "8032.8"KL @4KL per Tanker, total number of tanker required ("2008.2") and per tanker cost @Rs. 500)	0	1004100
Garland Drain & Desiltation Pond	256000	25600
Environment Monitoring & Compliance	0	50000
Total	**1082800**	**1217500**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

During first, second, third and fourth year & fifth year gritty soil & intercalated waste will be removed (26858 m^3) this soil and waste removed during first three years will be stored in exterior, dump. From 4^{th} year on wards it will be backfilled.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5

2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is **"Acceptable"**

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

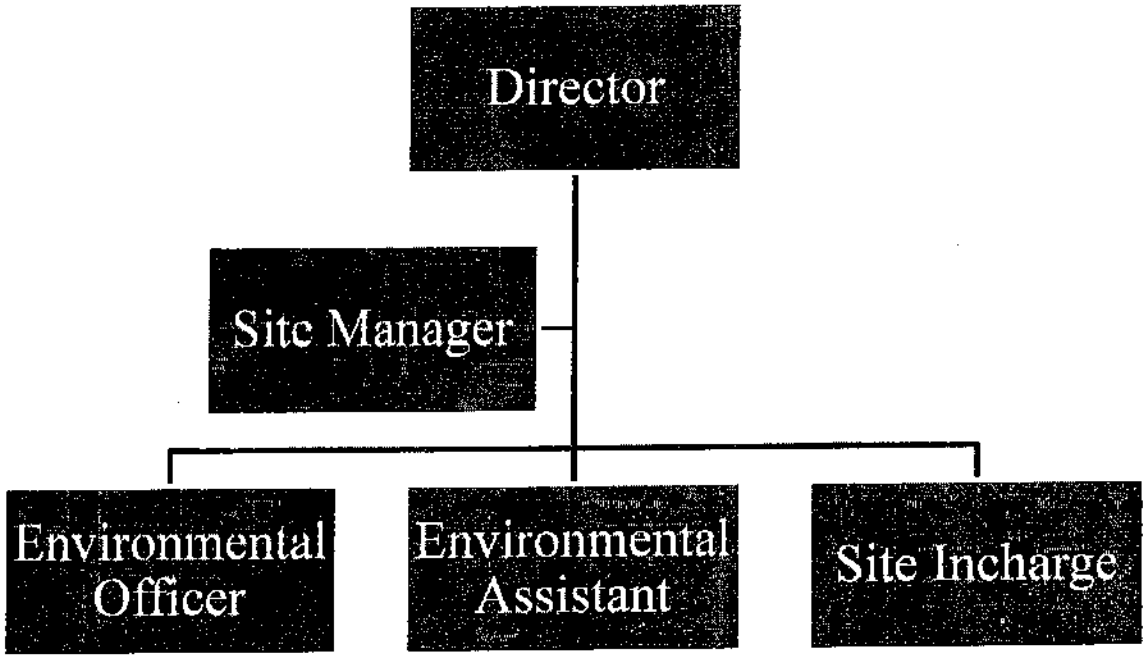
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs

- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Nawadih Stone Deposit of M/s Babadham Stone Works (Partners : Shri Rajesh Kumar Gupta & Shri Rusilal Marandi), Village : Nawadih, Anchal : Palojori, Distt. : Deoghar, Jharkhand (2.56 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

25. **Rajdaha Stone Deposit of M/s Maa Mansa Stone Works (Partners : Shri Sudhir Mandal & Shri Mahendra Mandal), Village : Rajdaha, Tehsil : Margomunda, Distt. : Deoghar, Jharkhand (0.777 Ha).**

(Proposal no.: SIA/JH/MIN/ 535161 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 21746 Tonnes per year or 7767 cum per year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Rajdaha Stone Deposit	
2	Lessee:	:	M/s Maa Mansa Stone Works Partners: Sri Sudhir Mandal & Sri Mahendra Mandal	
3	Lessee Address	:	Address: At Village – Pattajori, P.O.+P.S. – Margomunda, District – Deoghar, Jharkhand	
4	Lease Area	:	0.777 Ha.	1.92 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 1615500	Recurring : Rs. 11323166 per year
7	EMP Budget	:	Capital : Rs. 415500	Recurring : Rs. 484045 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	38652 Cum	108225 Tonnes
10	Mine Life	:	5 Years	
11	Man power	:	28	
12	Water Requirement	:	8.67 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Jainti Nadi – 2.08 in South direction	
17	Nearest Habitation	:	Rajdaha Village ~~(0.3 Km)~~	
18	Nearest Rail Station	:	Madhupur Railway Station (9.08 Km)	
19	Nearest Air Port	:	Deoghar Airport at a distance of 25 km.	

20	Nearest Forest	:	Divisional Forest Officer, Deoghar certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
21	Road & Highways	:	NH-144 (9.30 km)

CO-ORDINATES

Sl. No.	Latitude	Longitude
1	24°13'15.44916" N	86°34'20.45446" E
2	24°13'15.87220" N	86°34'20.45446" E
3	24°13'16.33001" N	86°34'21.65318" E
4	24°13'16.36687" N	86°34'21.90353" E
5	24°13'16.33616" N	86°34'22.00494" E
6	24°13'16.09918" N	86°34'22.16615" E
7	24°13'16.27792" N	86°34'22.33348" E
8	24°13'16.21632" N	86°34'22.45001" E
9	24°13'16.19962" N	86°34'22.63019" E
10	24°13'16.26856" N	86°34'22.68246" E
11	24°13'16.17265" N	86°34'22.84039" E
12	24°13'16.00792" N	86°34'22.98727" E
13	24°13'15.81553" N	86°34'23.10424" E
14	24°13'15.67747" N	86°34'22.95462" E
15	24°13'15.44300" N	86°34'22.78654" E
16	24°13'15.08455" N	86°34'22.58886" E
17	24°13'15.12235" N	86°34'22.70284" E
18	24°13'15.11533" N	86°34'22.96459" E
19	24°13'14.99448" N	86°34'23.11975" E
20	24°13'14.18671" N	86°34'22.81854" E
21	24°13'14.04221" N	86°34'22.82279" E
22	24°13'13.92208" N	86°34'22.93201" E
23	24°13'13.96884" N	86°34'23.53814" E
24	24°13'14.14780" N	86°34'23.53757" E
25	24°13'14.18452" N	86°34'24.37043" E
26	24°13'14.70083" N	86°34'24.41752" E
27	24°13'14.48357" N	86°34'25.47260" E
28	24°13'14.10517" N	86°34'25.51890" E
29	24°13'13.58206" N	86°34'25.50187" E
30	24°13'13.33646" N	86°34'25.35823" E
31	24°13'13.20805" N	86°34'25.57909" E
32	24°13'12.97124" N	86°34'25.49546" E
33	24°13'12.66478" N	86°34'25.49546" E
34	24°13'12.15145" N	86°34'24.59766" E
35	24°13'12.45166" N	86°34'24.27773" E
36	24°13'12.68796" N	86°34'23.87514" E
37	24°13'12.83952" N	86°34'23.31178" E

38	24°13'13.12460" N	86°34'23.42651" E
39	24°13'13.19218" N	86°34'23.16490" E
40	24°13'13.34014" N	86°34'22.79885" E
41	24°13'13.46311" N	86°34'22.47953" E
42	24°13'13.65200" N	86°34'22.34381" E
43	24°13'13.86487" N	86°34'22.29607" E
44	24°13'13.81091" N	86°34'22.06549" E
45	24°13'13.78798" N	86°34'21.86670" E
46	24°13'13.96718" N	86°34'21.84744" E
47	24°13'14.06114" N	86°34'21.62291" E
48	24°13'14.25392" N	86°34'21.33239" E
49	24°13'14.51795" N	86°34'21.56815" E
50	24°13'14.55798" N	86°34'21.27490" E
51	24°13'14.57994" N	86°34'20.97696" E
52	24°13'14.83399" N	86°34'20.61026" E
53	24°13'15.22506" N	86°34'20.60717" E

LAND DETAILS

Khata no.	Plot no.
11	1016, 1017, 1018, 1019, 1022, 1023, 1024, 1025, 1026, 1027, 1028 & 1029

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 239/M, dated 15.03.2024.
2	CO	:	The CO, Madhupur vide letter no. 187/Ra., dated 11.03.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 327/M, dated 27.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 350, dated 22.02.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 285, dated 20.02.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District

			(Page no. 67, Sl. No. 31).
7	Gram Sabha	:	BDO, Madhupur vide letter no. 303/Vi., dated 29.02.2024 informed that Gram Sabha conducted on 28.02.2024.
8	Mine Plan Approval	:	Approved by The Asststant Director Geology, District Geological Office, Deoghar vide Letter No. 103, dated 11.07.2024.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.370 Ha.	Life of Mine – 5 years
3	Waste Generation	:	4344 cum	
4	Stripping Ratio	:	1:0.04	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 3 in numbers	
7	Elevation of Mine	:	256 m AMSL to 252 m AMSL	
8	Ground Level Elevation	:	250 m AMSL	
9	Ultimate Working Depth	:	237 m AMSL	
10	Water Table	:	230 m AMSL	
11	Topography of Mine	:	Area represents gently slopIng land.	
12	Explosive Requirement	:	31.5 kg/day (To be handle by licensed external Agency)	
13	Diesel/Fuel requirement	:	43 litre/day	

Production Details

Year	Removal of Gritty Soil		Intercalated Waste	Production of Stone	
	In cum	In tonnes	In cum	In cum	In tonnes
1st	714	1071	403	7661	21450
2nd	336	504	408	7748	21696
3rd	000	000	408	7748	21696
4th	1260	1890	406	7722	21622
5th	000	000	409	7767	21746
Total	**2310**	**3465**	**2034**	**38646**	**108210**

Land Use

Type of Land	Present Land Use (in Ha)	At the End of Plan Period (in Ha)	Conceptual Period (in Ha)		
			Public use	Water Body	Plantation

Quarry	Nil	0.370 (Including backfill 0.185 Ha.)	----	0.129	0.241 (Dead bench plantation)
Greenbelt within Safety Barrier	Nil	0.400	-----	-----	0.400
Road	0.030	Nil	------	------	-------
Total Area in Use	**0.030**	**0.770**	-----	**0.129**	**0.641**
Non Mining Area	Nil	0.007	-----	-----	0.007
Balanced Area unused	0.747	Nil	-----	-----	---
Total Applied Area	**0.777**	**0.777**	**0.777**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	**Area (Ha.) or Length (m)**	**No. of tree**	**Calculation**	**Timeline**
Safety Zone	0.40	640	1600 tree per hectare	1st Year
Approach Road	100.00	100	2m X 2m spacing	1st year
Dead Bench	0.24	386	1600 tree per hectare	End of Mine
TOTAL		**1126.00**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda, Strictus & other Native Species				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1126" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	337800	56300

Water Facility for Horticulture "6.756" KLD & Dust Suppression "3.11" KLD (Annual Water Demand "2959.8"KL @4KL per Tanker, total number of tanker required ("739.95") and per tanker cost @Rs. 500)	0	369975
Garland Drain & Desiltation Pond	77700	7770
Environment Monitoring & Compliance	0	50000
Total	**415500**	**484045**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

During the field visit it has been observed that in Madhupur Block some working are going on and it has been found that the recovery of stone is 95% and rest 5% is treated as intercalated quarry waste.

The area is covered with a layer of gritty soil. During quarry development in 1" year removed gritty soil & intercalated waste will be temporarily dumped [Area-0.022 Ha, (L x W x H 16m x 14m x 5m) at the north-west part of the area with suitable precautions like parapet wall, garland drain & in 2 year gritty soil and intercalated waste will be used in haul road dressing & in 3 year removed intercalated waste will be used in haul road dressing & in 4 year removed gritty soil, intercalated & existing temporarily dumped material will be backfill within the exhausted quarry & in 5th year removed intercalated waste will be used in haul road dressing.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the

face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

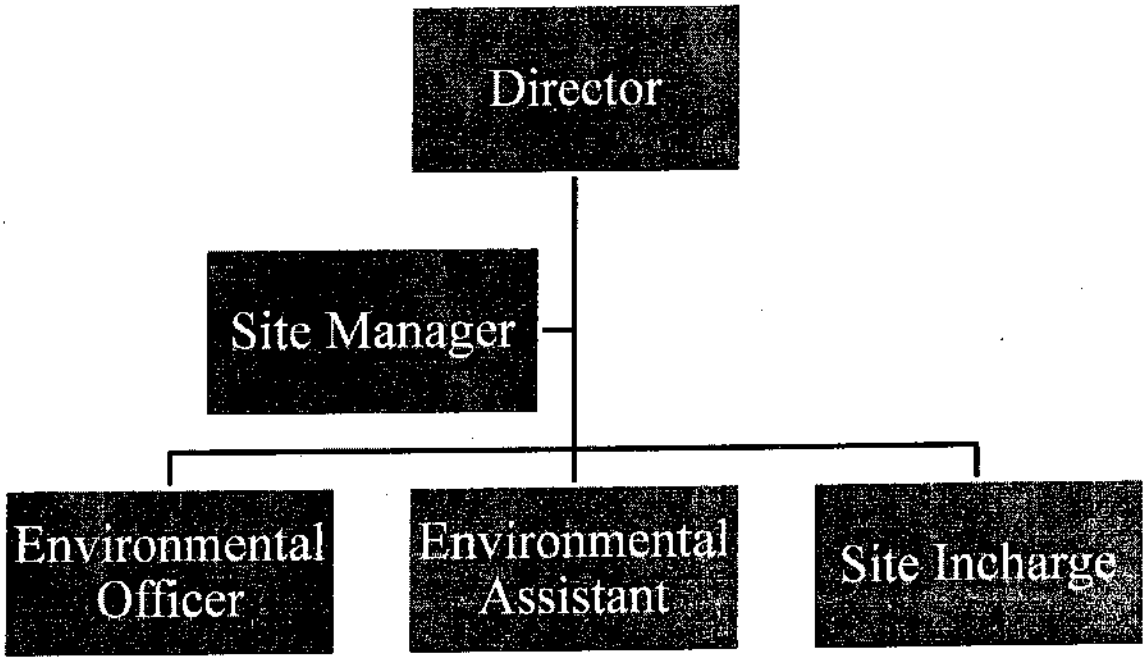
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs

- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Rajdaha Stone Deposit of M/s Maa Mansa Stone Works (Partners : Shri Sudhir Mandal & Shri Mahendra Mandal), Village : Rajdaha, Tehsil : Margomunda, Distt. : Deoghar, Jharkhand (0.777 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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26. Bhoradabar Stone Deposit of M/s Agrima Infra Engineering Pvt. Ltd. (Director : Shri Rahul Kumar), Village : Bhoradabar, Tehsil : Margomunda, Distt. : Deoghar, Jharkhand (1.343 Ha).

(Proposal no.: SIA/JH/MIN/ 534230 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 154105 Tonnes per year or 57076 cum per year

Project and Location Details:

Si.	Parameter		Details	
1	Project Name	:	Bhoradabar Stone Deposit	
2	Lessee:	:	M/S Agrima Infra Engineering Pvt Ltd Director: Sri Rahul Kumar	
3	Lessee Address	:	Address: At- Hardala Kund, Durga Bari Road, District- Deoghar. Jharkhand	
4	Lease Area	:	1.343 Ha.	3.32 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 1732400.00	Recurring: Rs. 8319280.00 per year
7	EMP Budget	:	Capital: Rs. 532400.00	Recurring: Rs. 496780.00 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	720457 Tonnes	
10	Mine Life	:	5 Years	
11	Man power	:	15	
12	Water Requirement	:	10.3832 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Jainti river: 7 km from lease area on northern side	
17	Nearest Habitation	:	Khajuriatand at a distance of 1.5 km in West direction.	
18	Nearest Rail Station	:	Madankata railway station at a distance of 10 km in East	

			direction
19	Nearest Air Port	:	Deoghar Airport at a distance of 51 Km in North- East direction.
20	Nearest Forest	:	None
21	Road & Highways	:	NH-114A at a distance of 0.6 km in Northern direction.

CO-ORDINATES

Pillar No	Latitude	Longitude	Pillar No	Latitude	Longitude
P1	24°09'28.22" N	86°36'19.76" E	P15	24°09'25.18" N	86°36'25.94" E
P2	24°09'27.87" N	86°36'20.94" E	P16	24°09'25.30" N	86°36'25.71" E
P3	24°09'28.74" N	86°36'21.28" E	P17	24°09'25.32" N	86°36'25.53" E
P4	24°09'28.54" N	86°36'22.33" E	P18	24°09'25.83" N	86°36'23.99" E
P5	24°09'28.16" N	86°36'23.38" E	P19	24°09'26.37" N	86°36'22.32" E
P6	24°09'27.92" N	86°36'23.86" E	P20	24°09'25.61" N	86°36'21.98" E
P7	24°09'27.41" N	86°36'25.81" E	P21	24°09'25.80" N	86°36'21.18" E
P8	24°09'26.71" N	86°36'26.93" E	P22	24°09'25.73" N	86°36'21.11" E
P9	24°09'26.53" N	86°36'26.78" E	P23	24°09'26.22" N	86°36'19.52" E
P10	24°09'26.30" N	86°36'26.69" E	P24	24°09'26.46" N	86°36'19.57" E
P11	24°09'26.14" N	86°36'26.66" E	P25	24°09'27.01" N	86°36'19.47" E
P12	24°09'26.08" N	86°36'26.47" E	P26	24°09'27.44" N	86°36'19.45" E
P13	24°09'25.96" N	86°36'26.37" E	P27	24°09'27.99" N	86°36'19.62" E
P14	24°09'25.80" N	86°36'26.39" E	P28	24°09'28.00" N	86°36'19.71" E

LAND DETAILS

Khata no.	Plot no.
06	357 & 360
03	358

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Deoghar vide letter no. 111/M, dated 06.02.2025.
2	CO	:	The CO, Margomudna vide letter no. 302/Ra., dated 09.10.2024 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in Khatiyan & Register II.
3	DMO Cluster	:	DMO, Deoghar vide memo no. 117/M, dated 07.02.2025 certified that 02 other mining lease area (4.19 Acre & 2.58 Acre) exists within 500 meters radius from proposed project site and total

			area is 10.09 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1787, dated 13.08.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Deoghar Forest Division vide letter no. 1531, dated 13.12.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Deoghar District (Page no. 67, Sl. No. 37).
7	Gram Sabha	:	BDO, Madhupur vide letter no. 1402/Vi., dated 08.10.2024 informed that Gram Sabha conducted on 15.07.2024.
8	Mine Plan Approval	:	Approved by The Asststant Director Geology, District Geological Office, Deoghar vide Letter No. 62/G, dated 12.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.946 Ha	Life of Mine – 5 years
3	Waste Generation	:	43564 cum	
4	Stripping Ratio	:	1:0.16	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 4 in numbers	
7	Elevation of Mine	:	263 m AMSL to 256 m AMSL	
8	Ground Level Elevation	:	254 m AMSL	
9	Ultimate Working Depth	:	235 m AMSL	
10	Water Table	:	225 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	51 kg/day (To be handled by external licensed agency)	
13	Diesel/Fuel requirement	:	308 litre/day	

Production Details

Year	Production of Stone in Cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in Cum	Total waste in Cum
1st Year	50464	136253	13680	2656	16336
2nd Year	52060	140562	0	2740	2740
3rd Year	52896	142819	15840	2784	18624
4th Year	54340	146718	0	2860	2860
5th Year	57076	154105	0	3004	3004
Total	**266836**	**720457**	**29520**	**14044**	**43564**

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of plan period (Ha)	At Conceptual stage (Ha)
Excavation	0.0	0.946 (0.083 Ha area shall be Backfilled, 0.576 Ha converted in to water reservoir and 0.287 ha shall be left as dead benches)	0.946 (0.083 Ha area shall be Backfilled upto surface level, 0.576 Ha converted in to water reservoir and 0.287 ha shall be left as dead benches)
Waste dump	0.0	Nil (waste dump to be removed and backfilled)	Nil (waste dump to be removed and backfilled)
Road	0.0	0.0	0.0
Infrastructure (Crusher)	0.0	0.0	0.0
Safety zone plantation	0.0	0.397	0.397
Total	**0.0**	**1.343**	**1.343**
Unused Area	**1.343**	**0.0**	**0.0**
Total Lease Area	**1.343**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	Number of Tree	Calculation	Timeline
Safety Zone (Ha.)	0.397 Ha	635	0.397 X 1600 = 635 2.5m X 2.5 m. Spacing triple row	1st Year
Approach Road	100.00	100	2m X 2m Spacing	1 st Year

(m)			in a single row	
Plantation on dead bench	0.287 Ha	459	0.287 X 1600 = 459	Mine closure
Plantation on backfilled area	0.083	133	0.083 X 1600 = 133	Mine closure
Total		**1327**		
Species: *Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1327" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	398100.00	66350.00
Water Facility for Horticulture "4.4112" KLD & Dust Suppression "5.372" KLD (Annual Water Demand "2934.96"KL @4L per Tanker, total number of tanker required ("734") and per tanker cost @Rs. 500)	0.00	367000.00
Garland Drain & Desiltation Pond	134300.00	13430.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**532400.00**	**496780.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative	2 station	Six Monthly

	testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.		

Solid Waste Management

The 50% of waste generated during the plan period i.e. 21782cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 21782 cum insitu 27227.50 cum loose & 23143.38 cum compact waste shall be temporary dumped in eastern part during first & second years, and during third, fourth & fifth year the generated waste and waste materials of temporary dump shall be removed and used for backfilling of exhausted part of quarry in western part and it will cover 0.083ha.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is **"Acceptable"**

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.

- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources

- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

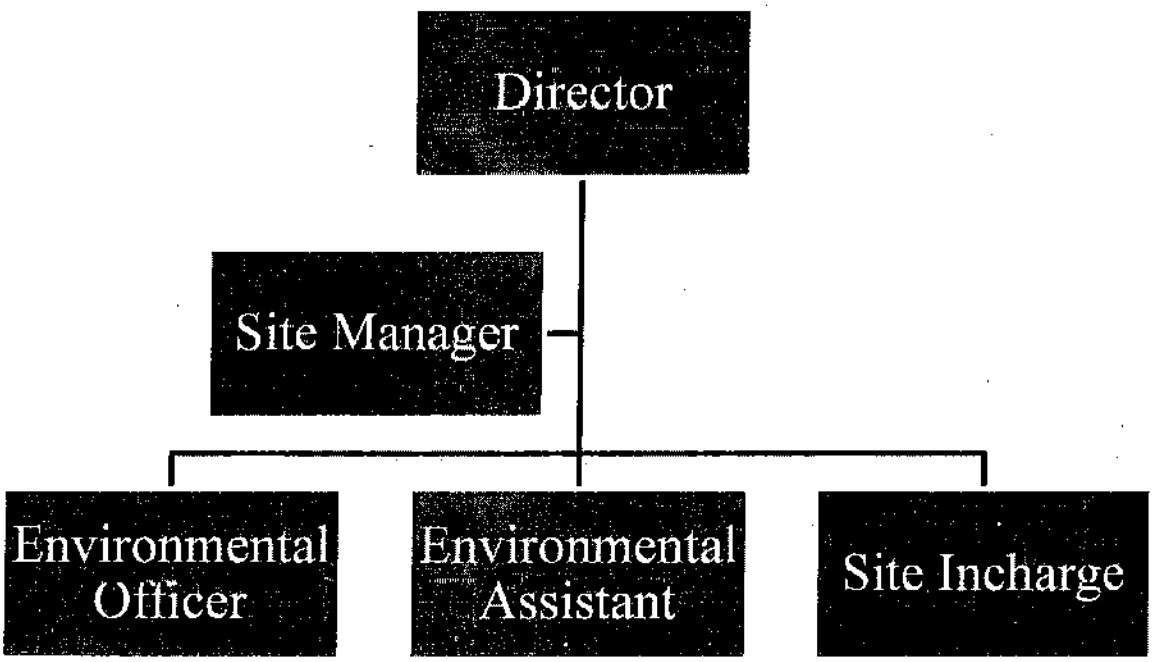
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bhoradabar Stone Deposit of M/s Agrima Infra Engineering Pvt. Ltd. (Director : Shri Rahul Kumar), Village : Bhoradabar, Tehsil : Margomunda, Distt. : Deoghar, Jharkhand (1.343 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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27. Hardia Stone Deposit of M/s Jai Mahakal Stone Mines (Partners : Shri Avinash Badal & Shri Sindhu Kumar), Village : Hardia, Anchal : Dhanwar, Distt. : Giridih, Jharkhand (0.769 Ha).

(Proposal no.: SIA/JH/MIN/ 535993 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 13395 Cum/ Year or 36167 Tonnes / Year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Hardia Stone Deposit	
2	Lessee:	:	M/s Jai Mahakal Stone Mines, Partner - Sri Sindhu Kumar & Sri Avinash Badal	
3	Lessee Address	:	Address: At Village - Jamdar, P. S. - Gawan, District - Giridih, Jharkhand	
4	Lease Area	:	0.769 Ha	1.90 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 1461460	Recurring: Rs. 6164950 per year
7	EMP Budget	:	Capital: Rs. 355900	Recurring: Rs. 358190 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	296258 Tonnes or 109725.19 cum	
10	Mine Life	:	10 Years	
11	Man power	:	15	
12	Water Requirement	:	7.37 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Kunda River at a distance 7 Km on North-Eastern direction	
17	Nearest Habitation	:	Hardia village at a distance of 0.6 Km.	
18	Nearest Rail Station	:	Dhanwar Railway Station at a distance of 13 km in South direction.	
19	Nearest Air Port	:	Deoghar Airport at a distance of 115 km in East direction.	
20	Nearest Forest	:	Divisional Forest Officer, Giridih certified that the distance of reserved / protected forest is more than 250 meter from	

			proposed project site.
21	Road & Highways	:	SH 13- Kodarma- Giridih Road at about 3.5 km in South direction.

CO-ORDINATES

Pillar No.	Latitude	Longitude	Pillar No.	Latitude	Longitude
P1	24°30'06.03342" N	85°54'35.54903" E	P16	24°30'10.67378" N	85°54'38.58102" E
P2	24°30'07.32384" N	85°54'35.74973" E	P17	24°30'10.74384" N	85°54'38.83770" E
P3	24°30'08.61343" N	85°54'36.14566" E	P18	24°30'11.02324" N	85°54'38.84468" E
P4	24°30'08.65300" N	85°54'37.10588" E	P19	24°30'11.02054" N	85°54'39.04592" E
P5	24°30'08.76762" N	85°54'37.19686" E	P20	24°30'10.99526" N	85°54'39.39163" E
P6	24°30'08.80038" N	85°54'37.32304" E	P21	24°30'10.95163" N	85°54'39.64108" E
P7	24°30'08.80812" N	85°54'37.64293" E	P22	24°30'10.90458" N	85°54'39.79228" E
P8	24°30'09.54824" N	85°54'37.78024" E	P23	24°30'09.96527" N	85°54'39.45377" E
P9	24°30'09.56322" N	85°54'38.20453" E	P24	24°30'08.90896" N	85°54'39.11778" E
P10	24°30'09.67939" N	85°54'38.22768" E	P25	24°30'07.99704" N	85°54'38.86574" E
P11	24°30'09.69480" N	85°54'37.82441" E	P26	24°30'08.23309" N	85°54'37.93928" E
P12	24°30'10.40332" N	85°54'37.89284" E	P27	24°30'07.22693" N	85°54'37.64722" E
P13	24°30'10.45001" N	85°54'38.08109" E	P28	24°30'06.62418" N	85°54'37.38107" E
P14	24°30'10.44536" N	85°54'38.37013" E	P29	24°30'05.88686" N	85°54'37.21748" E
P15	24°30'10.51992" N	85°54'38.38244" E	P30	24°30'06.04231" N	85°54'36.34956" E

LAND DETAILS

Khata no.	Plot no.
05	200, 201, 202, 203, 205 & 206 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 179/M, dated 10.02.2024.
2	CO	:	The CO, Dhanwar, Giridih vide letter no. 482, dated 12.07.2023 has mentioned the plot no. of the project is not recorded as "Jungle- Jhari" in Khatiyan and also mentioned that the Barsati Soti within 500 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Giridih vide memo no. 433/M, dated 28.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1557, dated 21.07.2023 certified that the proposed project site is outside Eco

			Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih West Forest Division vide letter no. 1151, dated 01.07.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 84, Sl. No. 16).
7	Gram Sabha	:	Gram Sabha conducted on 24.07.2023.
8	Mine Plan Approval	:	Approved by The Asststant Director Geology, District Geological Office, Koderma vide Memo No. 82, dated 29.03.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.315Ha.	Life of Mine – 10 years
3	Waste Generation	:	7648 cum	
4	Stripping Ratio	:	1:0.13	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 4 in numbers	
7	Elevation of Mine	:	343 m AMSL to 333 m AMSL	
8	Ground Level Elevation	:	331 m AMSL	
9	Ultimate Working Depth	:	320 m AMSL	
10	Water Table	:	300 m AMSL	
11	Topography of Mine	:	The applied lease area represents a small hillock.	
12	Explosive Requirement	:	15 kg/day (To be managed by external licenced agency)	
13	Diesel/Fuel requirement	:	73 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum
1st Year	10023	27061	4650	528	5178
2nd Year	10260	27702	0	540	540
3rd Year	10925	29498	0	575	575
4th Year	12350	33345	0	650	650
5th Year	13395	36167	0	705	705

Total	**56953**	**153772**	**4650**	**2998**	**7648**

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan Period (Ha)	At Conceptual period (Ha)
Excavation	0.0	0.315	0.447 (0.089 Ha area shall be backfilled upto surface level, 0.250 Ha converted in to water reservoir & 0.108 Ha shall be left as dead benches)
Waste Dump	0.0	0.110	Nil (waste dump to be removed and backfilled)
Road	0.0	0.002	0.0
Infrastructure (Crusher)	0.0	0.0	0.0
Safety Zone Plantation	0.0	0.322	0.322
Total	**0.0**	**0.749**	**0.769**
Unused Area	0.769	0.020	0.00
Total Lease Area	**0.769**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.32	515	0.32 X 1600 = 515 2.5m X2.5m Spacing triple row	1st Year
Approach Road (m)	100.00	100	2m X 2m Spacing in a single row	1st Year
Plantation on dead bench	0.108 Ha	173	0.108 X 1600 = 173	Mine Closure
Plantation on backfilled area	0.089 Ha	142	0.089 X 1600 = 142	Mine Closure
Total		**930**		
Species: *Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "930" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	279000.00	46500.00
Water Facility for Horticulture "3.6912" KLD & Dust Suppression "3.076" KLD (Annual Water Demand "2030.16"KL @4L per Tanker, total number of tanker required "508" and per tanker cost @Rs. 500)	0.00	254000.00
Garland Drain & Desiltation Pond	76900.00	7690.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**355900.00**	**358190.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

It has been calculated that total 7648 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 3824 cum (In situ) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 3824 cum insitu 4779.69 cum loose & 4062.73 cum compact waste shall be temporary dumped in northern part of the applied lease area with maximum height of 4.63 m and it will cover about 0.110 Ha area.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5

3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is **"Acceptable"**

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the

face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

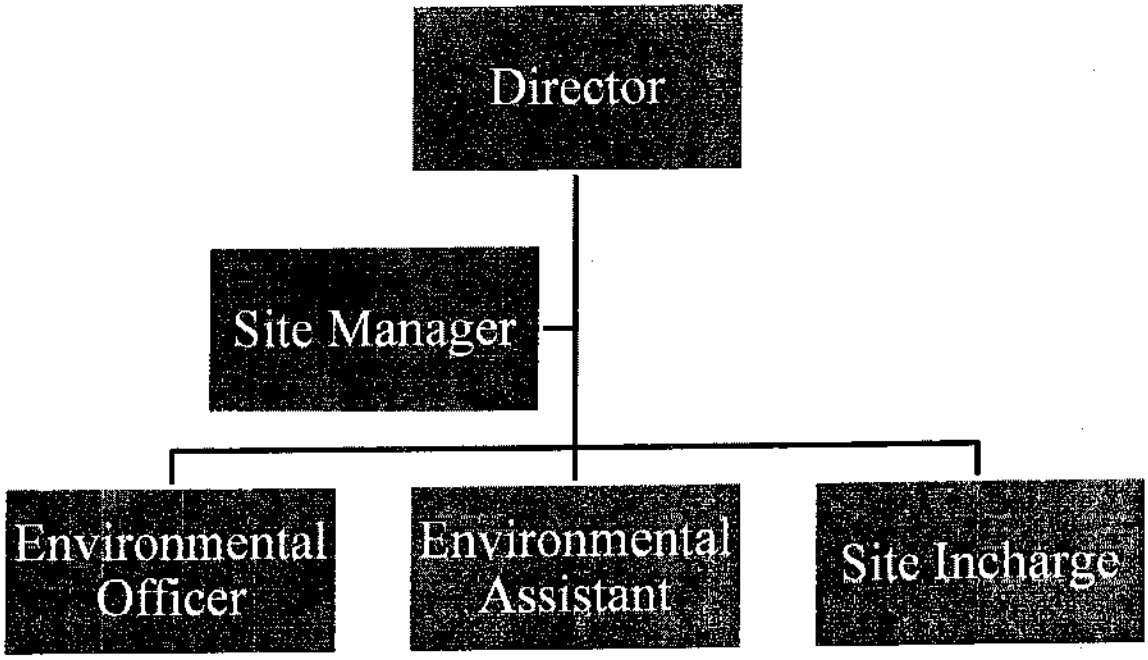
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs

- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Hardia Stone Deposit of M/s Jai Mahakal Stone Mines (Partners : Shri Avinash Badal & Shri Sindhu Kumar), Village : Hardia, Anchal : Dhanwar, Distt. : Giridih, Jharkhand (0.769 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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28. Darho Stone Deposit of M/s Om Sai Stone Mining (Partners : Shri Avinash Badal & Shri Sindhu Kumar), Village : Darho, Anchal : Gawan, Distt. : Giridih, Jharkhand (0.894 Ha).

(Proposal no.: SIA/JH/MIN/ 535965 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – Stone - 31132 Cum/year or 84055 Tonnes /year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Darho Stone Deposit	
2	Lessee:	:	M/s Om Sai Stone Mining, Partner - Sri Sindhu Kumar & Sri Avinash Badal	
3	Lessee Address	:	Address: Sakin - Jamdar, P.O. - Jamdar, District - Giridih, Jharkhand	
4	Lease Area	:	0.894 Ha.	2.21 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 1464440	Recurring: Rs. 6177640 per year
7	EMP Budget	:	Capital: Rs. 347300	Recurring: Rs. 353640 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	Stone - 400275.95 Tonnes	
10	Mine Life	:	5 Years	
11	Man power	:	16	
12	Water Requirement	:	7.71 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Sakri River – 5.55 Km on Northern side	
17	Nearest Habitation	:	Darho Village (0.38 Km)	
18	Nearest Rail Station	:	Unchdih Railway Station at a distance of 13.95 km in South direction.	
19	Nearest Air Port	:	Deoghar Airport at a distance of 92 km in East direction.	
20	Nearest Forest	:	Divisional Forest Officer, Giridih certified that the distance of reserved / protected forest is more than 250 meter from	

			proposed project site.
21	Road & Highways	:	Fatehpur & Chatro road at 8.77 Km on northern side

CO-ORDINATES

Pillar No	Latitude	Longitude	Pillar No	Latitude	Longitude
P1	24°32'11.08" N	85°53'26.30" E	**P26**	24°32'10.56" N	85°53'29.56" E
P2	24°32'11.37" N	85°53'26.88" E	**P27**	24°32'10.31" N	85°53'29.51" E
P3	24°32'11.53" N	85°53'26.98" E	**P28**	24°32'10.08" N	85°53'29.23" E
P4	24°32'12.22" N	85°53'27.04" E	**P29**	24°32'10.22" N	85°53'28.96" E
P5	24°32'12.88" N	85°53'27.06" E	**P30**	24°32'10.33" N	85°53'28.81" E
P6	24°32'12.98" N	85°53'26.98" E	**P31**	24°32'10.32" N	85°53'28.52" E
P7	24°32'13.09" N	85°53'27.59" E	**P32**	24°32'10.31" N	85°53'28.58" E
P8	24°32'13.13" N	85°53'28.10" E	**P33**	24°32'10.10" N	85°53'28.32" E
P9	24°32'13.40" N	85°53'28.11" E	**P34**	24°32'09.87" N	85°53'28.17" E
P10	24°32'13.40" N	85°53'28.56" E	**P35**	24°32'09.77" N	85°53'27.94" E
P11	24°32'13.21" N	85°53'29.20" E	**P36**	24°32'09.49" N	85°53'27.81" E
P12	24°32'13.18" N	85°53'29.47" E	**P37**	24°32'09.31" N	85°53'27.69" E
P13	24°32'13.13" N	85°53'29.66" E	**P38**	24°32'09.20" N	85°53'27.58" E
P14	24°32'13.05" N	85°53'29.80" E	**P39**	24°32'09.15" N	85°53'27.46" E
P15	24°32'12.72" N	85°53'30.04" E	**P40**	24°32'09.14" N	85°53'27.29" E
P16	24°32'12.51" N	85°53'29.93" E	**P41**	24°32'09.18" N	85°53'27.17" E
P17	24°32'12.42" N	85°53'29.93" E	**P42**	24°32'09.22" N	85°53'27.06" E
P18	24°32'12.22" N	85°53'30.03" E	**P43**	24°32'09.51" N	85°53'26.81" E
P19	24°32'12.03" N	85°53'30.01" E	**P44**	24°32'09.84" N	85°53'26.49" E
P20	24°32'11.87" N	85°53'29.94" E	**P45**	24°32'09.92" N	85°53'26.17" E
P21	24°32'11.62" N	85°53'29.83" E	**P46**	24°32'09.99" N	85°53'26.26" E
P22	24°32'11.42" N	85°53'30.00" E	**P47**	24°32'10.03" N	85°53'26.45" E
P23	24°32'11.08" N	85°53'29.87" E	**P48**	24°32'10.09" N	85°53'26.58" E
P24	24°32'10.99" N	85°53'29.74" E	**P49**	24°32'10.14" N	85°53'26.45" E
P25	24°32'10.53" N	85°53'29.60" E			

LAND DETAILS

Khata no.	Plot no.
09	822, 823 & 897
43	896

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 785/M, dated 12.08.2024.
2	CO	:	The CO, Gawan vide letter no. 172, dated 23.03.2024 has

			mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan and also mentioned that the habitation (3 House) within 500 meters of proposed project site, accordingly PAs has submitted EMP for the same.
3	DMO Cluster	:	DMO, Giridih vide memo no. 431/M, dated 28.04.2025 certified that 01 other mining lease area (1.94 Acre) exists within 500 meters radius from proposed project site and total area is 4.15 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 473, dated 04.03.2023 certified that the proposed project site is outside Eco Sensitive Zone of Koderma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 938, dated 06.03.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 80, Sl. No. 03).
7	Gram Sabha	:	BDO, Gawan vide letter no. 238, dated 14.03.2024 informed that Gram Sabha conducted on 13.03.2024.
8	Mine Plan Approval	:	Approved by The Asststant Director Geology, District Geological Office, Koderma vide Letter No. 71, dated 27.03.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.591 Ha.	Life of Mine – 5 years
3	Waste Generation	:	25996 cum	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 5 in numbers	
7	Elevation of Mine	:	277 m AMSL to 280 m AMSL	
8	Ground Level Elevation	:	275 m AMSL	
9	Ultimate Working Depth	:	250 m AMSL	
10	Water Table	:	240 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive	:	35 kg/day	

	Requirement		(to be handled by external authorised agency)
13	Diesel/Fuel requirement	:	168 litre/day

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Morrum in cum (as OB)	Intercalated waste in cum	Total Waste in cum
1st Year	28233	76229	10509	1486	1486
2nd Year	28662	77389	7684	1509	1509
3rd Year	29414	79418	0	1548	1548
4th Year	30809	83186	0	1622	1622
5th Year	31132	84055	0	1639	1639
Total	**148250**	**400276**	**18193**	**7803**	**7803**

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan Period (ha)	At Conceptual period (Ha)
Excavation	0.0	0.591	0.591 (0.419 Ha converted in to water reservoir & 0.172 Ha shall be left as dead benches)
Waste Dump	0.0	0.0	0
Road	0.0	0.0	00
Infrastructure (Crusher)	0.0	000	00
Safety Zone Plantation	0.0	0.303	0.303
Total	**0.0**	**0.894**	**0.894**
Unused Area	0.894	0.0	0.00
Total Lease Area	**0.894**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.303	485	0.303 X 1600 = 485 2.5m X2.5m Spacing triple row	1st Year
Approach Road (m)	100	100	2m X 2m Spacing in a single row	1st Year
Plantation on dead bench	0.172 Ha	276	0.172 X 1600 = 276	Mine Closure
Total		**861**		
Species: *Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans,*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "861" number of trees @Rs.300 per tree for plant & maintenance	258300.00	29240.00
Water Facility for Horticulture "3.5088" KLD & Dust Suppression "3.56" KLD (Annual Water Demand "2120.64"KL @4KL per Tanker, total number of tanker required ("531") and per tanker cost @Rs. 500)	0.00	265500.00
Garland Drain & Desiltation Pond	89000.00	8900.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**347300.00**	**353640.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

In this applied lease area, the stone deposit is covered with 2m layer of morrum. This morrum shall be used in construction projects. The recovery of stone is about 95%, thus intercalated waste of only 5% shall be generate from this mine. It has been calculated that total 7803 cum in-situ waste shall be generated during this plan period which shall be utilized for approach & haul road maintenance,

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is **"Acceptable"**

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the

weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

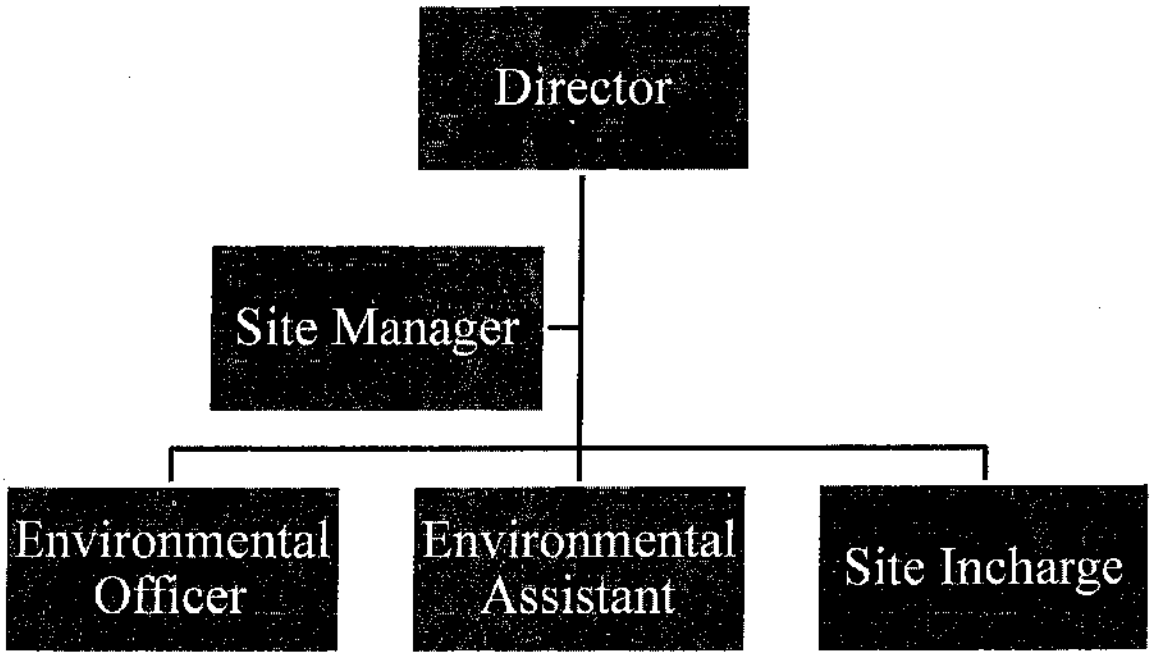
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data

- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual

- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Darho Stone Deposit of M/s Om Sai Stone Mining (Partners : Shri Avinash Badal & Shri Sindhu Kumar), Village : Darho, Anchal : Gawan, Distt. : Giridih, Jharkhand (0.894 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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29. Hansebari Stone Deposit of M/s Anaya Enterprises (Prop. : Shri Rakesh Sen Gupta), Village : Hansebari, Anchal : Deori, Distt. : Giridih, Jharkhand (1.003 Ha).

(Proposal no.: SIA/JH/MIN/ 533583 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 10749 Cum/Year or 29023 Tonnes/ Year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Hansebari Stone Deposit	
2	Lessee:	:	M/s Anaya Enterprises, Proprietor – Sri Rakesh Sen Gupta	
3	Lessee Address	:	Address: At – Bye Pass Road Rajpura Nawada Basti, P.O. – Jhumritilaiya, P.S. – Tilaiya, Kodarma Jharkhand	
4	Lease Area	:	1.003 Ha.	2.48 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 1645300	Recurring : Rs. 6263410 per year
7	EMP Budget	:	Capital : Rs. 445300	Recurring : Rs. 440910 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	234928 Tonnes	
10	Mine Life	:	10 Years	
11	Man power	:	15	
12	Water Requirement	:	9.64 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Sakri River – 3.5 Km on Northern side	
17	Nearest Habitation	:	Hansebari Village ~~(0.38 Km)~~	
18	Nearest Rail Station	:	Jharkhand Dham Railway Station at a distance of 10 km in South direction.	
19	Nearest Air Port	:	Deoghar Airport at a distance of 92 km in East direction.	
20	Nearest Forest	:	Divisional Forest Officer, Giridih certified that the distance of reserved / protected forest is more than 250 meter from	

			proposed project site.
21	Road & Highways	:	SH13- Kodarma- Giridih Road – at a distance of 2.1 km in Southern direction

CO-ORDINATES

Pillar No.	Latitude	Longitude
P1	24°29'59.28173" N	86°03"10.63127" E
P2	24°29'59.87123" N	86°03"09.85154" E
P3	24°30'00.25189" N	86°03"09.30370" E
P4	24°30'00.38092" N	86°03"09.30370" E
P5	24°30'00.45716" N	86°03"09.39053" E
P6	24°30'00.50699" N	86°03"09.65336" E
P7	24°30'00.58025" N	86°03"09.81547" E
P8	24°30'00.67784" N	86°03"10.15409" E
P9	24°30'00.69988" N	86°03"10.37203" E
10	24°30'01.04652" N	86°03"10.78211" E
P11	24°30'00.91091" N	86°03"11.51449" E
P12	24°30'00.54655" N	86°03"11.98350" E
P13	24°30'00.28537" N	86°03"12.17160" E
P14	24°29'59.32723" N	86°03"12.55500" E
P15	24°29'58.80484" N	86°03"12.81125" E
P16	24°29'58.52904" N	86°03"13.34905" E
P17	24°29'57.74831" N	86°03"12.64986" E
P18	24°29'57.26015" N	86°03"12.47738" E
P19	24°29'56.91386" N	86°03"12.25951" E
P20	24°29'57.63682" N	86°03"11.11428" E
P21	24°29'57.76937" N	86°03"10.91678" E
P22	24°29'57.38086" N	86°03"1o.58998" E
P23	24°29'57.80645" N	86°03"09.97546" E
P24	24°29'58.22678" N	86°03"10.30298" E
P25	24°29'58.05470" N	86°03"10.54242" E
P26	24°29'58.74403" N	86°03"10.78380" E
P27	24°29'58.88598" N	86°03"10.87873" E
P28	24°29'58.90319" N	86°03"10.75579" E
P29	24°29'58.83594" N	86°03"10.68764" E
P30	24°29'58.88339" N	86°03"10.48237" E
P31	24°29'58.92324" N	86°03"10.31.447" E
P32	24°29'58.44527" N	86°03"10.15308" E
P33	24°29'58.53890" N	86°03"09.85907" E
P34	24°29'58.70026" N	86°03"09.12020" E
P35	24°29'58.19615" N	86°03"08.83422" E
P36	24°29'58.54387" N	86°03"08.06645" E
P37	24°29'59.06756" N	86°03"08.37608" E
P38	24°29'59.19155" N	86°03"08.21279" E

P39	24°29'59.28677" N	86°03"08.03160" E
P40	24°29'59.43012" N	86°03"07.85002" E
P41	24°29'59.51231" N	86°03"07.78547" E
P42	24°29'59.78990" N	86°03"08.15944" E
P43	24°30'00.08564" N	86°03"08.67989" E
P44	24°30'00.19505" N	86°03"09.11524" E
P45	24°30'00.10019" N	86°03"09.35284" E
P46	24°29'59.72939" N	86°03"09.84240" E
P47	24°29'59.49568" N	86°03"10.21673" E
P48	24°29'59.26085" N	86°03"10.54757" E

LAND DETAILS

Khata no.	Plot no.
09	4 (P), 6, 7, 9, 10 & 12 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 710/M, dated 30.07.2024.
2	CO	:	The CO, Deori, Giridih vide letter no. 241, dated 25.06.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 856/M, dated 12.09.2024 certified that 01 other mining lease area (2.24 Acre) exists within 500 meters radius from proposed project site and total area is 4.72 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 406, dated 27.02.2023 certified that the proposed project site is outside Eco Sensitive Zone of Koderma Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih West Forest Division vide letter no. 876, dated 20.05.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 81, Sl. No. 08).
7	Gram Sabha	:	BDO, Deori (Giridih) vide letter no. 264, dated 27.01.2024 informed that Gram Sabha conducted on 23.02.2023.
8	Mine Plan	:	Approved by The Asststant Director Geology, District Geological

	Approval		Office, Koderma vide Letter No. 240, dated 21.12.2024.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.416 Ha.	Life of Mine – 10 years
3	Waste Generation	:	6486 cum	
4	Stripping Ratio	:	1:0.13	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	337 m AMSL to 330 m AMSL	
8	Ground Level Elevation	:	328 m AMSL	
9	Ultimate Working Depth	:	316 m AMSL	
10	Water Table	:	305 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	8 kg/day (To be handle by licensed external Agency)	
13	Diesel/Fuel requirement	:	58 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum
1st Year	8142	21982	4035	429	4464
2nd Year	8621	23277	0	454	454
3rd Year	9106	24586	0	479	479
4th Year	9956	26881	0	524	524
5th Year	10749	29023	0	566	566
Total	**46574**	**125749**	**4035**	**2451**	**6486**

Land Use

Lana Utilization	Existing Land use (Ha)	At the end of plan Period (ha)	At Conceptual period (Ha)
Excavation	00	0.416	0.542 (0.070 ha area shall be backfilled, 0.277 ha converted in to water reservoir & 0.195 ha shall be left as dead benches)
Waste Dump	00	0.124	Nil (waste dump to be removed and backfilled)

Road	00	0.002	00
Infrastructure	00	000	00
Safety Zone Plantation	00	0.461	0.461
Total	**00**	**1.003**	**1.003**
Unused Area	1.003	0.0	0.00
Total Lease Area	**1.003**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.46	738	0.46 X 1600 = 738 2.5m X2.5m Spacing triple row	1st Year
Approach Road (m)	100.00	100	2m X 2m Spacing in a single row	1st Year
Plantation on dead bench	0.195 Ha	312	0.195 X 1600 = 312	Mine Closure
Total		**1150**		
Species: *Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1150" number of trees @Rs.300 per tree for plant	345000	41880.00
Water Facility for Horticulture "5.0256" KLD & Dust Suppression "4.012" KLD (Annual Water Demand "2711.28"KL @4L per Tanker, total number of tanker required ("678") and per tanker cost @Rs. 500)	0.00	339000.00
Garland Drain & Desiltation Pond	100300.00	10030.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**445300**	**440910.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

During first, second, third and fourth year gritty soil & intercalated waste will be removed (3445.82 m^3) this soil and waste will be backfill within the exhausted quarry and in fifth year (4053.91 m^3) removed gritty soil, intercalated waste and existing temporary backfill soil will be backfilled within the lower bench of the exhausted quarry.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.

- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.

- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only

affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

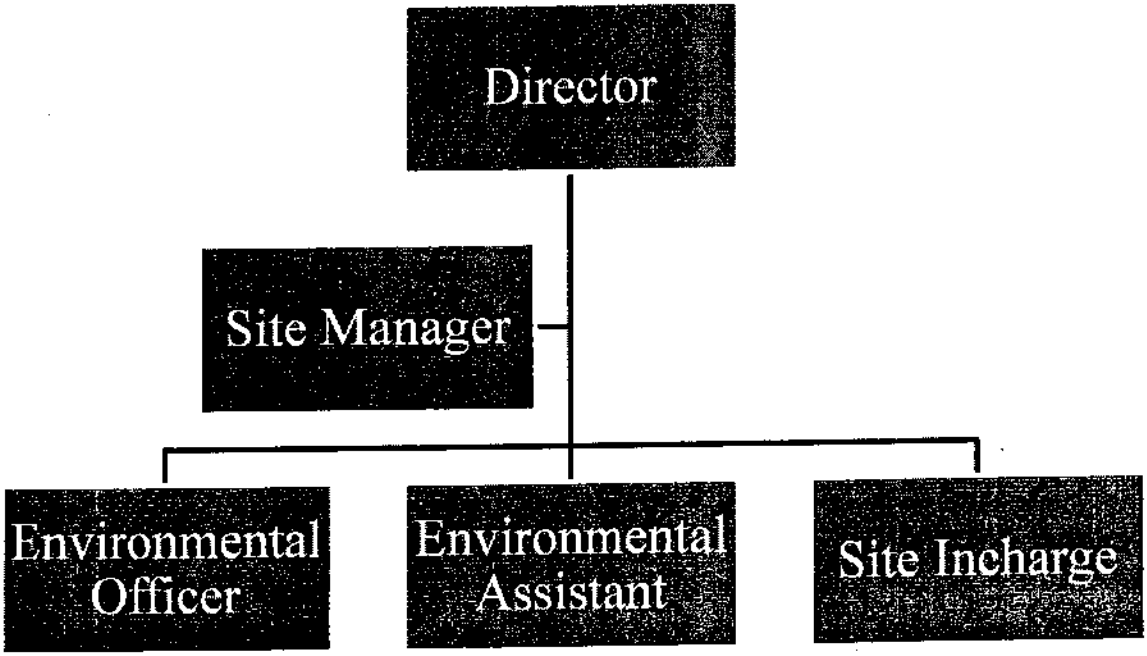
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.

e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Hansebari Stone Deposit of M/s Anaya Enterprises (Prop. : Shri Rakesh Sen Gupta), Village : Hansebari, Anchal : Deori, Distt. : Giridih, Jharkhand (1.003 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
V. Pre employment Occupational health check up for employees to be done and

thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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30. Bhiknidih Stone Mine of M/s Ganpati Stone Mining Works LLP (Partner : Shri Manoj Kedia), Village : Bhiknidih, Thana : Nimiyaghat, Distt. : Giridih, Jharkhand (2.147 Ha).

(Proposal no.: SIA/JH/MIN/ 533531 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 216113 Tonne / annum or 720.37 Tonnes per day

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Bhiknidih Stone Mine	
2	Lessee:	:	M/s Ganpati Stone Mining Works LLP Partner - Sri Manoj Kedia	
3	Lessee Address	:	At I.M.S. Road, P.S – Jhumri Tilaya, District – Koderma, Jharkhand	
4	Lease Area	:	2.147 Ha.	5.30Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 1761500	Recurring : Rs. 22438434.13
7	EMP Budget	:	Capital : Rs. 675500	Recurring : Rs. 711770

8	New or Expansion	:	New
9	Mineable Reserves	:	1087960 Tonnes (402948.14 Cum)
10	Mine Life	:	5 Years
11	Man power	:	42
12	Water Requirement	:	17.204 KLD
13	Water Source	:	By authorised hired water tankers
14	DG Set / power	:	-
15	Crusher	:	No crusher
16	Nearest Water Body	:	Jamuniya River 3.09KM
17	Nearest Habitation	:	Galagi at a distance of 0.62 km.
18	Nearest Rail Station	:	Nimiyaghat Railway Station 3.07KM
19	Nearest Air Port	:	Birsha Minda Airport – 150 KM
20	Nearest Forest	:	Not within 250m as per DFO, Giridih (East)
21	Road & Highways	:	NH-2, Delhi-Kolkata road is about 1.5 km away from the applied area.

CO-ORDINATES

BOUNDARY PILLARS	LATITUDE	LONGITUDE
1	23° 55' 21.13" N	86° 06' 19.74" E
2	23° 55' 21.27" N	86° 06' 19.37" E
3	23° 55' 21.59" N	86° 06' 19.53" E
4	23° 55' 21.93" N	86° 06' 20.66" E
5	23° 55' 21.26" N	86° 06' 20.93" E
6	23° 55' 21.29" N	86° 06' 21.75" E
7	23° 55' 20.62" N	86° 06' 21.61" E
8	23° 55' 19.62" N	86° 06' 25.50" E
9	23° 55' 16.48" N	86° 06' 23.89" E
10	23° 55' 17.19" N	86° 06' 21.04" E
11	23° 55' 18.07" N	86° 06' 21.30" E

12	23° 55' 19.34" N	86° 06' 20.78" E
13	23° 55' 19.85" N	86° 06' 21.13" E
14	23° 55' 19.75" N	86° 06' 20.59" E
15	23° 55' 17.88" N	86° 06' 20.89" E
16	23° 55' 17.19" N	86° 06' 20.92" E
17	23° 55' 17.21" N	86° 06' 20.26" E
18	23° 55' 17.06" N	86° 06' 20.22" E
19	23° 55' 17.03" N	86° 06' 17.86" E
20	23° 55' 17.49" N	86° 06' 17.81" E
21	23° 55' 17.75" N	86° 06' 17.46" E
22	23° 55' 18.34" N	86° 06' 17.49" E
23	23° 55' 18.59" N	86° 06' 17.31" E
24	23° 55' 19.33" N	86° 06' 17.51" E
25	23° 55' 19.18" N	86° 06' 18.23" E
26	23° 55' 19.33" N	86° 06' 18.76" E

LAND DETAILS

Khata No.	Plot No.
18	514
22	515, 531
10	516, 533
41	517, 529
06	519
05	534

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 654/M, dated 10.06.2023.
2	CO	:	The CO, Dumri, Giridih vide letter no. 289, dated 12.04.2023 has

			mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 416/M, dated 25.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 172, dated 24.01.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 240, dated 27.01.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 85, Sl. No. 18).
7	Gram Sabha	:	Gram Sabha conducted on 17.03.2023.
8	Mine Plan Approval	:	Approved by DMO, Giridih vide Letter No. 827/M, dated 02.08.2023.
9	Qualified Person	:	Shri J.P. Bhattacharya vide letter dated 09.05.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	1.487 Ha.	Life of Mine – 5 years
3	Waste Generation	:	37586 cum	
4	Stripping Ratio	:	1:0.97	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	271 m AMSL to 265 m AMSL	
8	Ground Level Elevation	:	265 m AMSL	
9	Ultimate Working Depth	:	233 m AMSL	
10	Water Table	:	228 m AMSL	
11	Topography of Mine	:	Area represents hilly land with gently sloping land.	
12	Explosive Requirement	:	Powder factor 72.037 Kg	
13	Diesel/Fuel requirement	:	432.222 litres/day (To be handle by licensed external Agency)	

Production Details

Year	Production of Stone in Cum	Production of Stone in Tonnes	Overburden in Cum
1st	80010	216027	18410
2nd	80021.12	216057	19176
3rd	80041.86	216113	0
4th	80021.12	216057	0
5th	80028.15	216076	0
Total	**4,00,122.25**	**1080330**	**37,586**

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (in Ha)		
			Public use	Water body	Plantation
Excavation	0.0	1.487	0.0	1.187	0.30
Road	0.0	0.0	0.0	0.0	0.0
Crusher	0.0	0.0	0.0	0.0	0.0
Safety Zone	0.0	0.660	0.0	0.0	0.66
Waste Dump	0.0	0.0	0.0	0.0	0.0
Total Area in Use	**2.147**	**2.147**	**0.0**	**1.187**	0.96
Unused Area	**2.147**	**0**	**2.147**		
Total Applied Area	**2.147**				

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.660	1056	0.660 X 1600 = 1056 2.5m X2.5m Spacing triple row	1st Year
Approach Road (m)	0.0	0.0	2m X 2m Spacing in a single row	1st Year
Plantation on backfilled area	0.300 Ha	480	0.300 X 1600 = 480	Mine Closure
Total		**1536**		
Species: *Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

BUDGETARY PROVISION FOR ENVIRONMENT MANAGEMENT PLAN (EMP)		
Particulars	**Capital (INR)**	**Recurring (INR/Year)**
1536 Tree Plantation @Rs.300 per Tree for planting & maintenance	4,60,800	57,800
Water Tanker @Rs. 500 per Tanker for Dust Suppression (8.588 KLD) & Horticulture (6.936 KLD) 8.588 + 6.936 = 15.524 KLD 15.524 KLD X 300 Days = 4657.2 KLD 4657.2 KLD / 4 KLD = 1164 Tankers	0	5,82,500
Garland Drain & Parapet wall	2,14,700	21,470
Environment Monitoring & Compliance	0	50,000
Total	**6,75,500**	**7,11,770**

Environment Monitoring Plan (post operation) Monitoring Parameters and Frequency of Monitoring

S. no	**Monitoring Parameters**	**No. of Locations**	**Frequency of Monitoring**
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly

3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

During first, second, third and fourth year gritty soil & intercalated waste will be removed (37586 m^3) this soil and waste will be temporarily backfill within the exhausted quarry and in fifth year (37586 m^3) removed gritty soil, intercalated waste and existing temporary backfill soil will be backfilled within the lower bench of the exhausted quarry.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).

- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the

drill hole continuously and discharges the same in a dust collector specially provided for the purpose.

- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how

risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)

- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

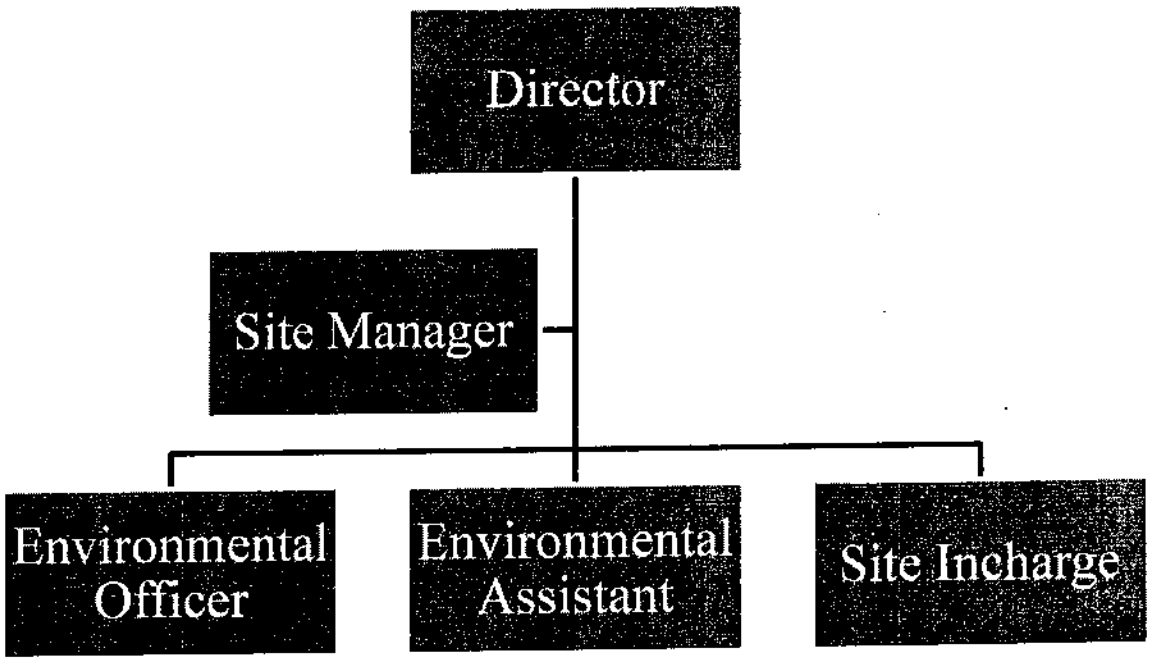
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections

- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.

j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.

k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Bhiknidih Stone Mine of M/s Ganpati Stone Mining Works LLP (Partner : Shri Manoj Kedia), Village : Bhiknidih, Thana : Nimiyaghat, Distt. : Giridih, Jharkhand (2.147 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

31. Jaduraidih Stone Deposit of M/s Anaya Enterprises (Prop. : Shri Rakesh Sen Gupta), Village : Jaduraidih, Anchal : Deori, Distt. : Giridih, Jharkhand (1.963 Ha).

(Proposal no.: SIA/JH/MIN/ 534242 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 31141 Cum/Year or 84081 Tonnes/ Year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Jaduraidih Stone Deposit	
2	Lessee:	:	M/s Anaya Enterprises, Proprietor – Sri Rakesh Sen Gupta	
3	Lessee Address	:	Address: At – Bye Pass Road Rajpura, Navada Basti, P.O. – Jhumritilaiya, P.S. – Tilaiya, Kodarma, Jharkhand	
4	Lease Area	:	1.963 Ha.	4.85 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 1859500	Recurring : Rs. 66611105 per year
7	EMP Budget	:	Capital : Rs. 659500	Recurring : Rs. 788605 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	793139 Tonnes	
10	Mine Life	:	10 Years	
11	Man power	:	15	
12	Water Requirement	:	13.756 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Irga River at a distance of 14 km in Southern direction.	
17	Nearest Habitation	:	Jaduraidih Village at a distance of 0.6 km in North-East direction.	
18	Nearest Rail Station	:	Jharkhand Dham Railway Station at a distance of 7.5 km in South direction.	
19	Nearest Air Port	:	Deoghar Airport at a distance of 90 km in East direction.	
20	Nearest Forest	:	Divisional Forest Officer, Giridih certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.	

21	Road & Highways	:	SH-13 Kodarma - Giridih Road at a distance of 2.1 km in South direction.

CO-ORDINATES

Pillar No	Latitude	Longitude
P1	24°28'37.72556" N	86°03'57.15662" E
P2	24°28'38.04038" N	86°03'57.29526" E
P3	24°28'38.06224" N	86°03'58.04233" E
P4	24°28'38.15274" N	86°03'58.07455" E
P5	24°28'38.49888" N	86°03'58.41036" E
P6	24°28'39.55512" N	86°03'59.09058" E
P7	24°28'39.68807" N	86°03'59.72310" E
P8	24°28'39.18360" N	86°04'00.46164" E
P9	24°28'3934258" N	86°04'00.92150" E
P10	24°28'39.37415" N	86°04'01.23283" E
P11	24°28'39.04086" N	86°04'01.58210" E
P12	24°28'38.80287" N	86°04'01.66919" E
P13	24°28'38'49560" N	86°04'01.67214" E
P14	24°28'38.26690" N	86°04'01.62167" E
P15	24°28'38.07448" N	86°04'01.17448" E
P16	24°28'37.88472" N	86°04'00.95498" E
P17	24°28'37.01039" N	86°04'02.00932" E
P18	24°28'36.47305" N	86°04'02.47584" E
P19	24°28'36.23084" N	86°04'02.25941" E
P20	24°28'35.90778" N	86°04'02.45464" E
P21	24°28'35.92808" N	86°04'02.82104" E
P22	24°28'35.58925" N	86°04'03.11113" E
P23	24°28'35.07982" N	86°04'03.98554" E
P24	24°28'3481064" N	86°04'04.27656" E
P25	24°28'33.68946" N	86°04'03.03431" E
P26	24°28'33.41316" N	86°04'02.79808" E
P27	24°28'32.64208" N	86°04'01.83378" E
P28	24°28'33.62837" N	86°04'00.94022" E
P29	24°28'34.36925" N	86°04'00.00991" E
P30	24°28'35.38124" N	86°03'59.19350" E
P31	24°28'36.37146" N	86°03'57.91486" E
P32	24°28'36.57713" N	86°03'57.97037" E
P33	24°28'36.76868" N	86°03'57.98304" E
P34	24°28'36.87229" N	86°03'58.04618" E
P35	24°28'36.95358" N	86°03'58.27568" E

LAND DETAILS

Khata no.	Plot no.
12	429, 430, 432 (P) & 433

08	452 & 434 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 712/M, dated 30.07.2024.
2	CO	:	The CO, Deori, Giridih vide letter no. 242, dated 25.06.2024 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 442/M, dated 29.04.2025 certified that 02 other mining lease area (1.65 Acre & 1.69 Acre) exists within 500 meters radius from proposed project site and total area is 8.19 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2330, dated 10.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih West Forest Division vide letter no. 1149, dated 01.07.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 82, Sl. No. 9).
7	Gram Sabha	:	BDO, Deori (Giridih) vide letter no. 266, dated 27.01.2024 informed that Gram Sabha conducted on 05.04.2023.
8	Mine Plan Approval	:	Approved by The Asststant Director Geology, District Geological Office, Koderma vide Memo No. 241, dated 21.12.2024.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.980 Ha.	Life of Mine – 10 years
3	Waste Generation	:	16099 cum	
4	Stripping Ratio	:	1:0.02	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	360 m AMSL to 356 m AMSL	
8	Ground Level	:	354 m AMSL	

	Elevation		
9	Ultimate Working Depth	:	330 m AMSL
10	Water Table	:	315 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	28 kg/day (To be handle by licensed external Agency)
13	Diesel/Fuel requirement	:	168 litre/day

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum
1st Year	28842	77873	4400	1518	5918
2nd Year	29156	78720	3080	1535	4615
3rd Year	29051	78438	0	1529	1529
4th Year	31141	84081	0	1639	1639
5th Year	28842	77873	880	1518	2398
Total	**147032**	**396985**	**8360**	**7739**	**16099**

Land Use

Lana Utilization	Existing Land use (Ha)	At the end of plan Period (ha)	At Conceptual period (Ha)
Excavation	0.0	0.980	1.473 (0.109 Ha area shall be backfill, 1.061 Ha converted in to water reservoir & 0.303 Ha shall be left as dead benches)
Waste Dump	0.0	0.194	Nil (waste dump to be removed and backfilled)
Road	0.0	0.004	0.0
Infrastructure (Crusher)	0.0	0.0	0.0
Safety Zone Plantation	0.0	0.490	0.490
Total	**0.0**	**1.668**	**1.963**
Unused Area	1.963	0.295	0.00
Total Lease Ares	**1.963**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation				
Location	**Area (Ha.) or Length (m)**	**No. of tree**	**Calculation**	**Timeline**

Safety Zone	0.49	784	1600 tree per hectare	1st Year
Approach Road	100.00	100	2m X 2m spacing	1st year
Dead Bench	0.303	485	1600 tree per hectare	End of Mine
Backfilled area (level upto surface)	0.109	175	1600 tree per hectare	End of Mine
TOTAL		**1544.00**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda, Strictus & other Native Species				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1544" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	463200	77200
Water Facility for Horticulture "9.264" KLD & Dust Suppression "7.85" KLD (Annual Water Demand "5134.2"KL @4KL per Tanker, total number of tanker required ("1283.55") and per tanker cost @Rs. 500)	0	641775
Garland Drain & Desiltation Pond	196300	19630
Environment Monitoring & Compliance	0	50000
Total	**659500**	**788605**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of	2 Stations	Six Monthly

	the mine area. In the surrounding area covering project site only.		
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

During first, second, third and fourth year gritty soil & intercalated waste will be removed (16099 m^3) . O.B. will be temporarily stored in external dump on southern side during plan period.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.

- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads

- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and

transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

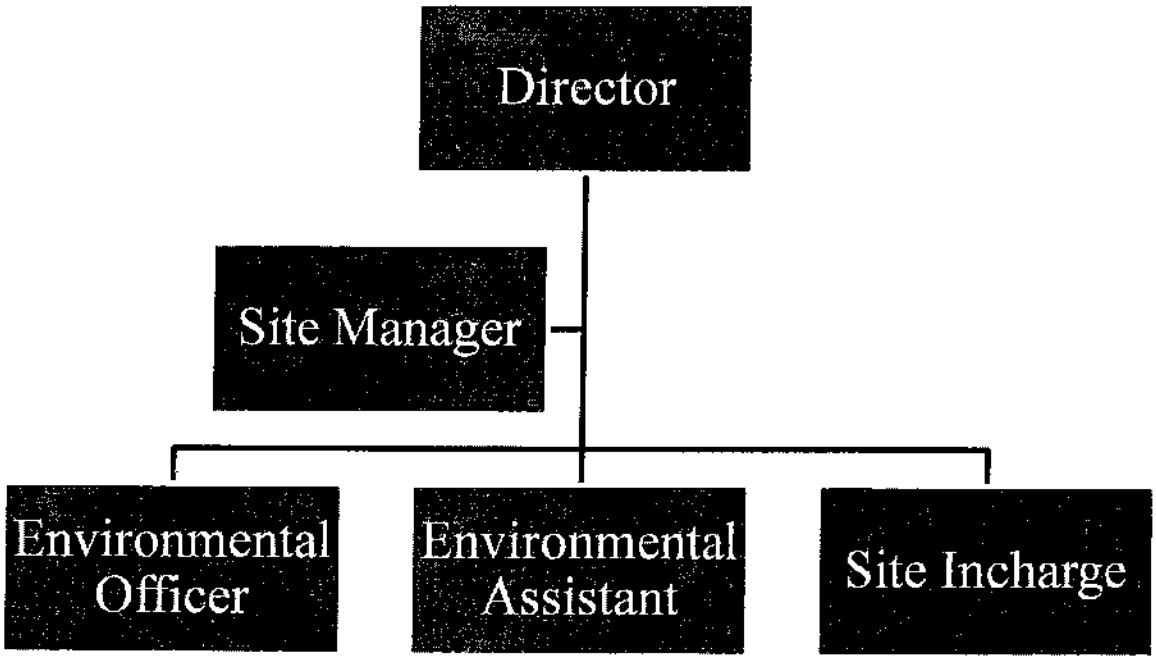
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities

- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision

5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.

h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Jaduraidih Stone Deposit of M/s Anaya Enterprises (Prop. : Shri Rakesh Sen Gupta), Village : Jaduraidih, Anchal : Deori, Distt. : Giridih, Jharkhand (1.963 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.
VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.
VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

32. Kulgo Stone Mine of M/s Narayani Mining & Logistics (Partner : Shri Praveen Kumar Sukhani), Village : Kulgo, Anchal : Dumri, Distt. : Giridih, Jharkhand (1.867 Ha).

(Proposal no.: SIA/JH/MIN/ 534600 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 37060 Cum/Year 100062 Tonnes/ Year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	**KULGO STONE MINE**	
2	Lessee:	:	**M/s Narayani Mining & Logistics** Partner – Sri Praveen Kumar Sukhani	
3	Lessee Address	:	Permanent Address At – Ward No. 8, Near Tara Tand Road, Durga Mandap, P.S. – Jhumri Tilaiya, Kodarma Jharkhand Present Address : Do	
4	Lease Area	:	1.867 Ha.	4.61 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 1699900	Recurring : Rs. 18713742 per year
7	EMP Budget	:	Capital : Rs. 499900	Recurring : Rs. 642570 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1004324 Tonnes	
10	Mine Life	:	10 Years	
11	Man power	:	27	
12	Water Requirement	:	14.99 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	

15	Crusher	:	No crusher
16	Nearest Water Body	:	Sariya Tand Nala – 0.34 Km
17	Nearest Habitation	:	Kulgo Village (0.55Km)
18	Nearest Rail Station	:	Chaudhribandh Railway Station – 3.4 Km
19	Nearest Air Port	:	Deoghar Airport – 113 Km
20	Nearest Forest	:	Divisional Forest Officer, Giridih certified that the distance of reserved / protected forest is more than 250 meter from proposed project site.
21	Road & Highways	:	NH – 2- Delhi - Kolkata Road – 2 Km

CO-ORDINATES

Sl.No.	Latitude	Longitude
1	24°01'29.11"	85°58'48.76"
2	24°01'30.49	85°58'49.57"
3	24°01'30.64"	85°58'49.01"
4	24°01'31.09"	85°58'49.21"
5	24°01'31.29"	85°58'48.70"
6	24°01'31.02"	85°58'48.28"
7	24°01'30.73"	85°58'48.34"
8	24°01'30.20"	85°58'49.13"
9	24°01'29.21"	85°58'48.54"
10	24°01'28.96"	85°58'48.03"
11	24°01'30.47"	85°58'45.93"
12	24°01'31.81"	85°58'47.05"
13	24°01'32.17"	85°58'46.46"
14	24°01'33.51"	85°58'47.25"
15	24°01'33.07	85°58'50.90"
16	24°01'32.31"	85°58'51.90"
17	24°01'32.16"	85°58'51.82"
18	24°01'31.80	85°58'52.34"
19	24°01'29.60"	85°58'50.93"
20	24°01'28.27"	85°58'52.71"
21	24°01'27.73"	85°58'52.09"
22	24°01'27.70"	85°58'51.50"
23	24°01'28.05"	85°58'50.98"
24	24°01'28.11"	85°58'50.51"
25	24°01'27.96	85°58'50.30"

LAND DETAILS

Khata no.	Plot no.
128	25 (P)
37	26
114	27
122	28
111	29 (P)
48	31 (P)
37	32 (P)
38	52 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 655/M, dated 10.06.2023.
2	CO	:	The CO, Dumri (Giridih) vide letter no. 288, dated 12.04.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 417/M, dated 25.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 767, dated 08.05.2025 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 1544, dated 27.04.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. .86, Sl. No. 20).
7	Gram Sabha	:	Gram Sabha conducted on 13.03.2023.
8	Mine Plan Approval	:	Approved by DMO, Giridih vide Letter No. 828/M, dated 02.08.2023.
9	Qualified Person	:	Shri J.P. Bhattacharya vide letter dated 09.05.2025 affirmed that

			the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.620 Ha.	Life of Mine – 10 years
3	Waste Generation	:	38900 cum	
4	Stripping Ratio	:	1:0.39	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	225 m AMSL to 223 m AMSL	
8	Ground Level Elevation	:	221 m AMSL	
9	Ultimate Working Depth	:	190 m AMSL	
10	Water Table	:	187 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	42 kg/day (To be handled by license external agency)	
13	Diesel/Fuel requirement	:	200 litre/day	

Production Details

Year	Overburden(M^3)	Run-of-Mine Stone(T)
1st Year	27336	100062
2nd Year	-	100062
3rd Year	11564	100030
4th Year	-	100062
5th Year	-	100062
Total	**38900**	**500278**

Land Use

Land Utilization	Present Land Use	At the end of Plan Period	At Conceptual Plan	Remarks
Quarry	0.00	0.620	1.244	Water Reservoir
Greenbelt /Safety Zone	0.00	0.590	0.590	Plantation
Dump	0.00	0.320	0.00	
Total Area in use	*0.00*	*1.530*	*1.867*	
Balance Land	**1.867**	**0.337**	**0.00**	
Total Lease Area	**1.867**	**1.867**	**1.867**	

ENVIRONMENT MANAGEMENT

Green Belt Development

Plantation	

Location	Area (Ha.) or Length (m)	No. of tree	Calculation	Timeline
Safety Zone	0.59	944	1600 tree per hectare	1st Year
Approach Road	100	100	2m X 2m spacing	1st year
	TOTAL	**1044**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo: - Bombas, Nutans, Toolda, Strictus & other Native Species				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Environment Monitoring Plan (post operation)

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1044" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	313200	52200
Water Facility for Horticulture "6.264" KLD & Dust Suppression "7.648" KLD (Annual Water Demand "4173.6"KL @4KL per Tanker, total number of tanker required ("1043.4") and per tanker cost @Rs. 500)	0	521700
Garland Drain & Desiltation Pond	186700	18670
Environment Monitoring & Compliance	0	50000
Total	**499900**	**642570**

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative	2 station	Six Monthly

	testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.		

Solid Waste Management

The overburden materials in the form of alluvial soil will be dump by following the arrangement describe below;

- During the first year of mine operation, the quantity of overburden materials likely to be generated is 27336m^3. For stacking these materials temporarily an area near the south – east corner boundary pillar nos. 19, 20, 21, 22,23,24 & 25.
- As per the working schedule drawn unpin the mine plan report, the third year of mining operation will see generation of around 11564m^3 of overburden materials. These will also be stacked over the same dumping area as described above.
- The dump will be of temporary nature and the materials stacked will be recovered towards the end of conceptual period for utilizing mainly as backfilling purpose. Some percentage of the overburden materials will be used for mine road making or maintenance as the case may be.
- The area required for dumps will be 0.320 ha. With a dump height of 12m.
- There will be no mineral rejects.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.
Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.
Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is **"Acceptable"**
Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be

workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people

become aware of the blasting activities being undertaken in the area and take appropriate precautions.

- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

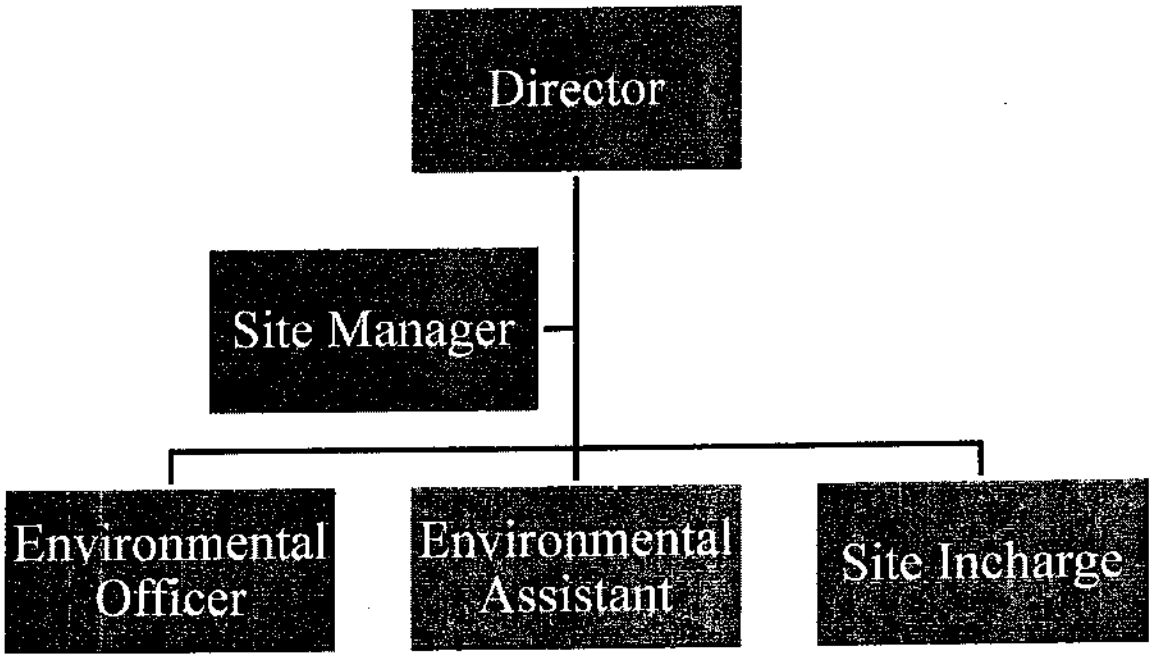
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.

f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kulgo Stone Mine of M/s Narayani Mining & Logistics (Partner : Shri Praveen Kumar Sukhani), Village : Kulgo, Anchal : Dumri, Distt. : Giridih, Jharkhand (1.867 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.
V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

****

33. Galagi Stone Mine of M/s Ganpati Stone Mining Works LLP (Partner : Shri Manoj Kedia), Village : Galagi, Tehsil : Dumri, Distt. : Giridih, Jharkhand (2.855 Ha).

(Proposal no.: SIA/JH/MIN/ 533549 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 324124 Tonne / annum or 1080.4Tonnes per day

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Galagi Stone Mine	
2	Lessee:	:	M/s Ganpati Stone Mining Works LLP Partner - Sri Manoj Kedia	
3	Lessee Address	:	At I.M.S. Road, P.S – Jhumri Tilaya, District – Koderma, Jharkhand	
4	Lease Area	:	2.855 Ha.	7.05Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 1885700	Recurring : Rs. 26447072.72
7	EMP Budget	:	Capital : Rs. 6,70,700	Recurring : Rs. 873750
8	New or Expansion	:	New	
9	Mineable Reserves	:	1636948 Tonnes, 606277.03 Cum	

10	Mine Life	:	5 Years
11	Man power	:	45
12	Water Requirement	:	21.224 KLD
13	Water Source	:	By authorised hired water tankers
14	DG Set / power	:	-
15	Crusher	:	No crusher
16	Nearest Water Body	:	Jamuniya River 3 Km.
17	Nearest Habitation	:	Isri at a distance of 12 km.
18	Nearest Rail Station	:	Madhwadih Lying – 2 Km
19	Nearest Air Port	:	Birsha Munda Airport, Ranchi- 150 Km
20	Nearest Forest	:	Not within 250m as per DFO, Giridih (East)
21	Road & Highways	:	NH-2, Delhi-Kolkata road is about 1.5 km away from the applied area in Western direction.

CO-ORDINATES

Sl. No.	Latitude	Longitude
1	23°55'04.08" N	86°06'54.69" E
2	23°55'02.26" N	86°07'00.10" E
3	23°55'00.17" N	86°06'59.95" E
4	23°54'58.72" N	86°06'59.24" E
5	23°54'58.53" N	86°06'59.32" E
6	23°54'58.24" N	86°06'59.17" E
7	23°54'58.24" N	86°06'58.94" E
8	23°54'57.74" N	86°06'58.74" E
9	23°54'57.74" N	86°06'58.41" E
10	23°54'57.26" N	86°06'58.53" E
11	23°54'56.84" N	86°06'58.40" E
12	23°54'56.84" N	86°06'58.25" E
13	23°54'56.30" N	86°06'58.05" E

14	23°54'56.34" N	86°06'57.30" E
15	23°54'57.07" N	86°06'55.93" E
16	23°54'57.51" N	86°06'56.00" E
17	23°54'57.71" N	86°06'55.56" E
18	23°54'57.54" N	86°06'55.34" E
19	23°54'57.69" N	86°06'55.07" E
20	23°54'59.87" N	86°06'56.44" E
21	23°54'59.71" N	86°06'56.76" E
22	23°54'59.53" N	86°06'57.02" E
23	23°54'00.18" N	86°06'56.44" E
24	23°54'57.81" N	86°06'54.86" E
25	23°54'58.03" N	86°06'54.47" E
26	23°54'58.47" N	86°06'54.72" E
27	23°54'58.53" N	86°06'54.01" E
28	23°54'58.87" N	86°06'53.96" E
29	23°54'59.67" N	86°06'52.15" E
30	23°55'00.86" N	86°06'52.09" E
31	23°55'01.05" N	86°06'54.79" E
32	23°55'02.65" N	86°06'55.38" E
33	23°55'03.21" N	86°06'55.77" E
34	23°55'03.32" N	86°06'55.16" E
35	23°55'03.53" N	86°06'55.20" E
36	23°55'03.64" N	86°06'54.61" E

LAND DETAILS

Khata no.	Plot no.
21	384 (P)

22	386
28	402 & 385
64	387
65	388
34	403
51	405, 406 & 404
08	408 & 409
11	410
47	411
61	412
38	413 (P)
32	419 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 653/M, dated 10.06.2023.
2	CO	:	The CO, Dumri (Giridih) vide letter no. 290, dated 12.04.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 421/M, dated 25.04.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 171, dated 24.01.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 241, dated 27.01.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 85, Sl. No. 19).
7	Gram Sabha	:	Gram Sabha conducted on 25.03.2023.
8	Mine Plan Approval	:	Approved by DMO, Giridih vide Letter No. 826/M, dated 02.08.2023.

9	Qualified Person	:	Shri J.P. Bhattacharya through letter dated 09.05.2025 affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	1.487 Ha.	Life of Mine – 5 years
3	Waste Generation	:	77719 cum	
4	Stripping Ratio	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	269 m AMSL to 266 m AMSL	
8	Ground Level Elevation	:	264 m AMSL	
9	Ultimate Working Depth	:	230 m AMSL	
10	Water Table	:	227 m AMSL	
11	Topography of Mine	:	Area represents hilly land with gently sloping land.	
12	Explosive Requirement	:	Powder factor 108.04 Kg (To be handle by licensed external Agency)	
13	Diesel/Fuel requirement	:	648.24 litres/day	

Production Details

Year	Production of Stone in Tonnes	Production of Stone in Cum	Overburden in Cum
1st	324124	120045.92	64107
2nd	324016	120005.92	0
3rd	324043	120015.92	0
4th	324070	120025.92	13612
5th	324049	120018.14	0
Total	**1620302**	**600111.82**	**77719**

Land Use

Pattern of Utilization	Existing Land Use (Ha)	At the end of Plan period (Ha)	Conceptual stage (in Ha)		
			Public use	Water body	Plantation
Excavation	0.0	2.115	0.0	2.115	0.00
Road	0.0	0.0	0.0	0.0	0.0
Crusher	0.0	0.0	0.0	0.0	0.0

Safety Zone	0.0	0.74	0.0	0.0	0.74
Waste Dump	0.0	0.0	0.0	0.0	0.0
Total Area in Use	**2.855**	**2.855**	**0.0**	**2.115**	**0.74**
Unused Area	**2.855**	**0**	**2.855**		
Total Applied Area	**2.855**				

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.740	1184	0.74 X 1600 = 1184 2.5m X2.5m Spacing triple row	1st Year
Approach Road (m)	100.00	100	2m X 2m Spacing in a single row	1st Year
Total		**1284**		
Species: *Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

BUDGETARY PROVISION FOR ENVIRONMENT MANAGEMENT PLAN (EMP)		
Particulars	**Capital (INR)**	**Recurring (INR/Year)**
1284 Tree Plantation	3,85,200	66,700

Water Tanker @Rs. 500 per Tanker for Dust Suppression (8.588 KLD) & Horticulture (6.936 KLD) 1.8 + 8.004 + 11.42 = 21.224 KLD 21.224 KLD X 300 Days = 6367.2 KLD 6367.2 KLD / 4 KLD = 1592 Tankers	0	7,95,900
Garland Drain & Parapet wall	2,85,500	28,550
Environment Monitoring & Compliance	0	50,000
Total	**6,70,700**	**9,41,150**

Environment Monitoring Plan (post operation) Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

During first, second, third and fourth year gritty soil & intercalated waste will be removed (77719 m^3) this soil and waste will be temporarily backfill within the exhausted quarry and in fifth year (0 m^3) removed gritty soil, intercalated waste and existing temporary backfill soil will be backfilled within the lower bench of the exhausted quarry.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.

- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5

5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or

maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection,

although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.

- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.

- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

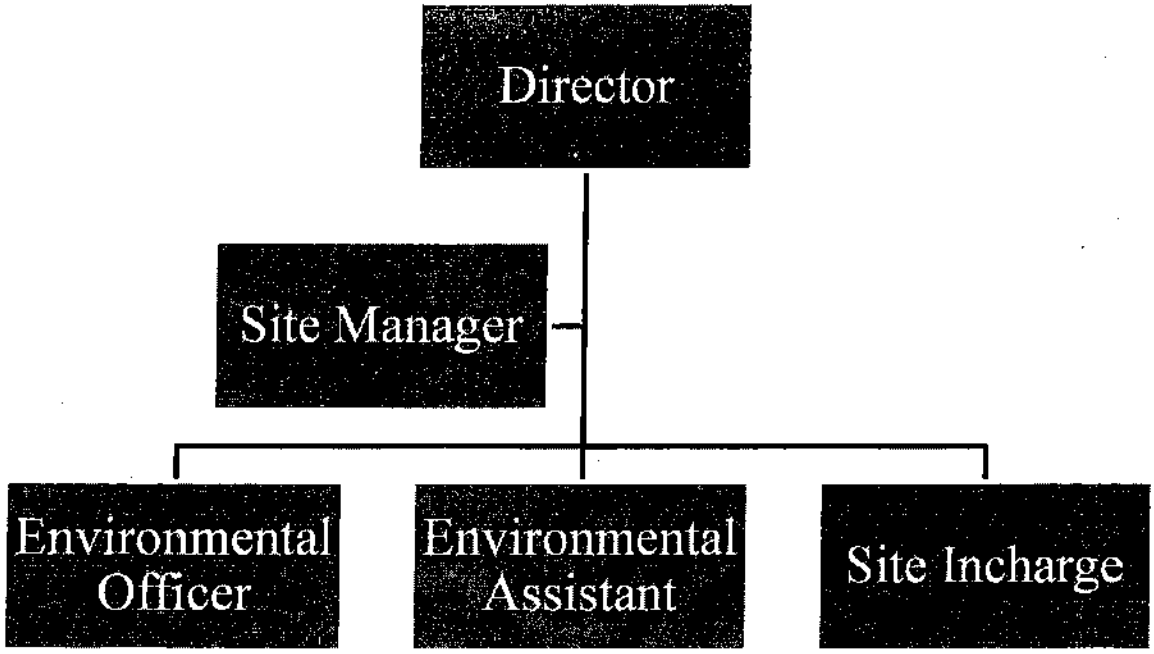
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports

- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director

- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

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- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is **"Acceptable"**

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling

- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large

quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

The EMP Cell objectives are:

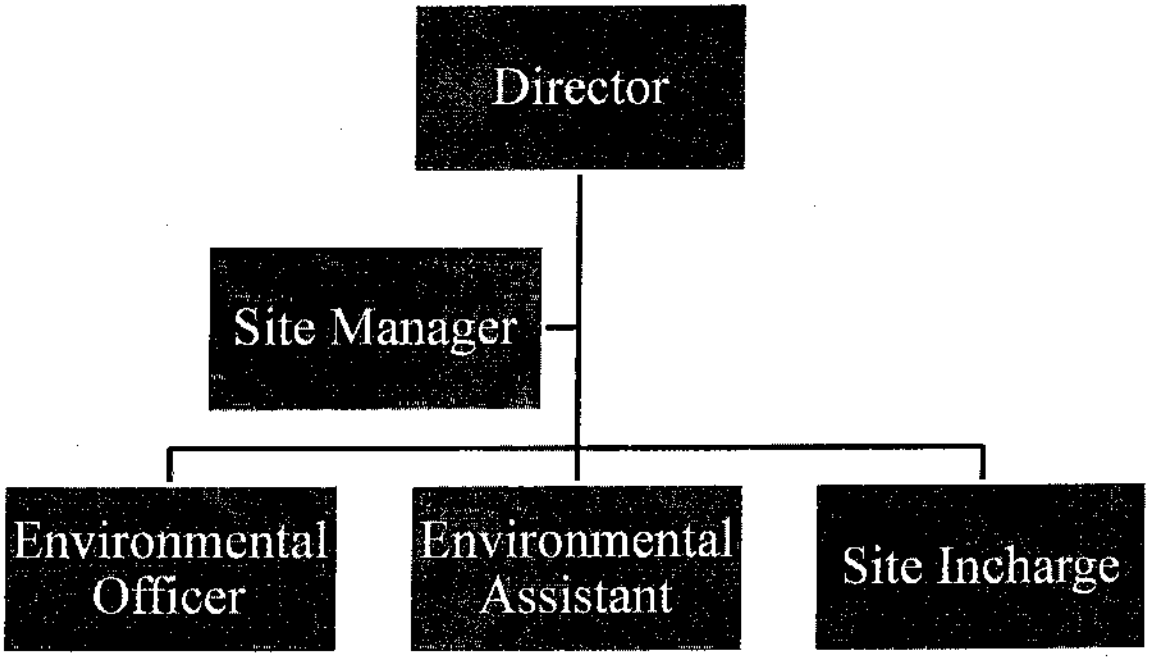
- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization

- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports

- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP

2. Operational Phase (Ongoing): Implement EMP

3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director

- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Galagi Stone Mine of M/s Ganpati Stone Mining Works LLP (Partner : Shri Manoj Kedia), Village : Galagi, Tehsil : Dumri, Distt. : Giridih, Jharkhand (2.855 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for Irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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34. Surjudih Stone Deposit of M/s Anaya Enterprises (Prop. : Shri Rakesh Sen Gupta), Village : Surjudih, Thana : Nimighat, Distt. : Giridih, Jharkhand (1.190 Ha).

(Proposal no.: SIA/JH/MIN/ 534260 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 72859 Tonnes/Year or 26985 cum/year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Surjudih Stone Deposit	
2	Lessee:	:	M/s Anaya Enterprises Proprietor – Sri Rakesh Sen Gupta	
3	Lessee Address	:	Address: At – Bye Pass Road Rajpura, Navada Basti, P.O. – Jhumritilaiya, P.S. – Tilaiya, Kodarma Jharkhand	
4	Lease Area	:	1.190 Ha.	2.94 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 1991500	Recurring: Rs. 6329150 per year
7	EMP Budget	:	Capital: Rs. 791500	Recurring: Rs. 506650 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	326930 Tonnes	
10	Mine Life	:	5 Years	
11	Man power	:	15	
12	Water Requirement	:	10.664 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Jamuniya River at a distance of 2.9 km in West direction.	
17	Nearest Habitation	:	Nagri village at a distance of 0.7 km in South-West direction.	
18	Nearest Rail Station	:	Nimiyaghat Railway Station at a distance of 1.7 km in West direction.	
19	Nearest Air Port	:	Deoghar Airport at a distance of 120 km in North-East direction.	
20	Nearest Forest	:	Divisional Forest Officer, Giridih certified that the distance of reserved / protected forest is more than 250 meter from	

			proposed project site.
21	Road & Highways	:	NH19- Dumri - Gobindpur Road at a distance of North direction.

CO-ORDINATES

Pillar No.	Latitude	Longitude	Pillar No.	Latitude	Longitude
P1	23°55"50.17930" N	86°05'44.79374" E	P26	23°55"46.35937" N	86°05'45.59057" E
P2	23°55"49.71119" N	86°05'45.71794" E	P27	23°55"46.27614" N	86°05'45.48026" E
P3	23°55"49.21500" N	86°05'46.51685" E	P28	23°55"46.33550" N	86°05'45.11627" E
P4	23°55"48.72681" N	86°05'47.29708" E	P29	23°55"46.43162" N	86°05'45.04600" E
P5	23°55"48.49147" N	86°05'47.79240" E	P30	23°55"46.41092" N	86°05'44.59695" E
P6	23°55"48.37393" N	86°05'47.92189" E	P31	23°55"46.35944" N	86°05'44.50823" E
P7	23°55"47.93254" N	86°05'47.76119" E	P32	23°55"46.10495" N	86°05'44.46085" E
P8	23°55"47.52581" N	86°05'47.64422" E	P33	23°55"45.86491" N	86°05'44.45272" E
P9	23°55"47.38717" N	86°05'47.47301" E	P34	23°55"45.64265" N	86°05'44.40091" E
P10	23°55"46.99290" N	86°05'47.34334" E	P35	23°55"45.67192" N	86°05'44.11291" E
P11	23°55"46.39613" N	86°05'47.31979" E	P36	23°55"45.86027" N	86°05'43.36944" E
P12	23°55"45.94613" N	86°05'47.35680" E	P37	23°55"46.18402" N	86°05'42.88301" E
P13	23°55"45.54305" N	86°05'47.31738" E	P38	23°55"46.96982" N	86°05'43.38323" E
P14	23°55"45.36052" N	86°05'47.24858" E	P39	23°55"47.79311" N	86°05'43.91203" E
P15	23°55"45.11834" N	86°05'47.03035" E	P40	23°55"48.80946" N	86°05'44.50837" E
P16	23°55"44.68638" N	86°05'47.23915" E	P41	23°55"48.71892" N	86°05'44.90875" E
P17	23°55"44.41685" N	86°05'46.63968" E	P42	23°55"48.63083" N	86°05'45.12149" E
P18	23°55"44.17068" N	86°05'46.09223" E	P43	23°55"48.33304" N	86°05'45.12376" E
P19	23°55"44.25845" N	86°05'45.78691" E	P44	23°55"48.12629" N	86°05'45.51547" E
P20	23°55"44.52258" N	86°05'45.49916" E	P45	23°55"48.31230" N	86°05'45.63218" E
P21	23°55"44.72371" N	86°05'45.76729" E	P46	23°55"48.73818" N	86°05'45.49448" E
P22	23°55"45.05484" N	86°05'45.89977" E	P47	23°55"48.89741" N	86°05'45.65058" E
P23	23°55"45.67472" N	86°05'45.98527" E	P48	23°55"49.09755" N	86°05'45.71657" E
P24	23°55"46.28035" N	86°05'46.19620" E	P49	23°55"49.42448" N	86°05'45.16775" E
P25	23°55"46.35052" N	86°05'45.91352" E	P50	23°55"49.76483" N	86°05'44.52896" E

LAND DETAILS

Khata no.	Plot no.
22	244
24	247 (P)
27	246

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 572/M, dated 22.06.2024.

2	CO	:	The CO, Dumri (Giridih) vide letter no. 640, dated 05.08.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 432/M, dated 28.04.2025 certified that 02 other mining lease area (4.44 Acre & 4.55 Acre) exists within 500 meters radius from proposed project site and total area is 11.93 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2331, dated 10.10.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 3241, dated 04.09.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 82, Sl. No. 10).
7	Gram Sabha	:	BDO, Dumri (Giridih) vide letter no. 1861 dated 22.12.2023 informed that Gram Sabha conducted on 20.07.2023.
8	Mine Plan Approval	:	Approved by The Asststant Director Geology, District Geological Office, Koderma vide Memo No. 242, dated 21.12.2024.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.70 Ha.	Life of Mine – 5 years
3	Waste Generation	:	15133 cum	
4	Stripping Ratio	:	1:0.12	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	289 m AMSL to 282 m AMSL	
8	Ground Level Elevation	:	280 m AMSL	
9	Ultimate Working Depth	:	265 m AMSL	
10	Water Table	:	255 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	24 kg/day (To be managed by external licenced agency)	

13	Diesel/Fuel requirement	:	146 litre/day

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum
1st Year	22610	61047	6120	1190	7310
2nd Year	22998	62094	0	1210	1210
3rd Year	23256	62791	0	1224	1224
4th Year	25237	68139	2640	1328	3968
5th Year	26985	72859	0	1420	1420
Total	**121085**	**326930**	**8760**	**6373**	**15133**

Land Use

Lana Utilization	Existing Land use (Ha)	At the end of plan Period (Ha)	At Conceptual period (Ha)
Excavation	0.0	0.700 (0.073 ha area shall be backfilled, 0.413 ha converted in to water reservoir & 0.215 ha shall be left as dead benches)	0.700 (0.073 Ha area shall be backfilled upto surface level, 0.413 Ha converted in to water reservoir & 0.215 Ha. shall be left as dead benches)
Waste Dump	0.0	Nil (waste dump to be removed and backfilled)	Nil (waste dump to be removed and backfilled)
Road	0.0	0.0	0.0
Infrastructure (Crusher)	0.0	0.0	0.0
Safety Zone Plantation	0.0	0.490	0.490
Total	**0.0**	**1.190**	**1.190**
Unused Area	1.190	0.0	0.00
Total lease area	**1.190**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.49	784	0.49 X 1600 = 784 2.5m X2.5m Spacing triple row	1st Year
Approach Road (m)	100.00	100	2m X 2m Spacing in a single row	1st Year
Plantation on dead bench	0.215 Ha	344	0.215 X 1600 = 344	Mine Closure
Plantation on	0.073 Ha	117	0.073 X 1600 = 117	Mine Closure

backfilled area				
Total		**1345**		
Species: *Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "1345" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	672500.00	67250.00
Water Facility for Horticulture "5.304" KLD & Dust Suppression "4.76" KLD (Annual Water Demand "3019.2"KL @4L per Tanker, total number of tanker required "755" and per tanker cost @Rs. 500)	0.00	377500.00
Garland Drain & Desiltation Pond	119000.00	11900.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**791500.00**	**50665.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

15133 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 7566 cum (in situ) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 7566 cum insitu 9458.06 cum loose & 8039.35 cum compact waste shall be temporary dumped in northern part during first to third years and during fourt and fifth year the generated waste and waste materials of temporary dump shall be removed and used for backfilling of exhausted part of quarry in southern part and it will cover 0.073 Ha.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the

weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.

- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

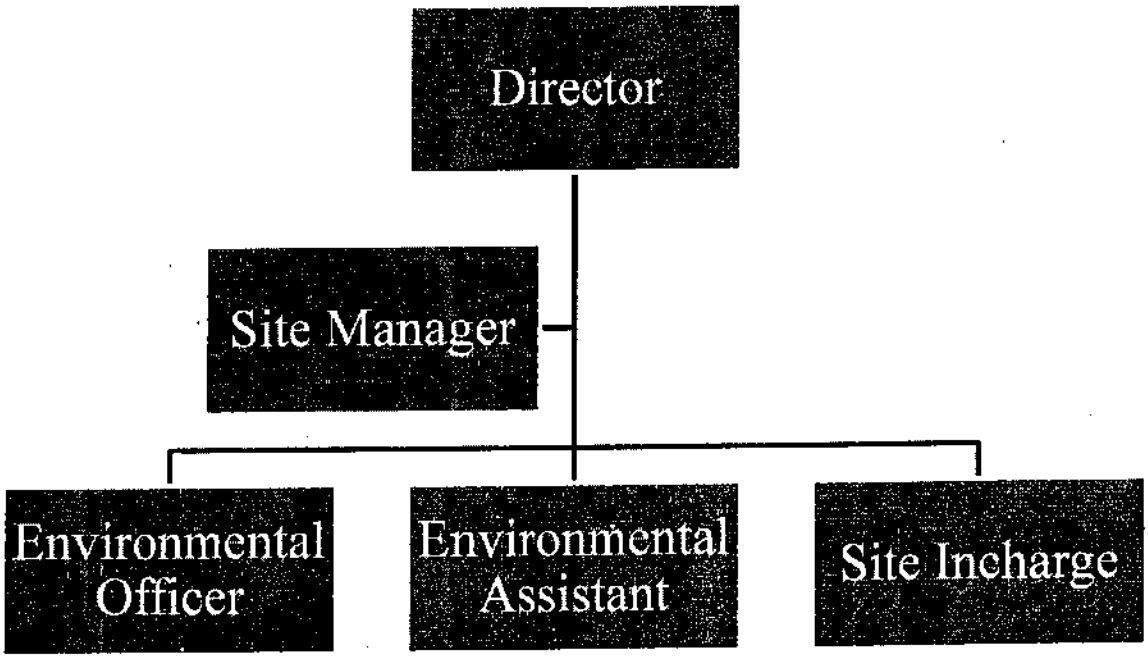
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data

- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual

- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Surjudih Stone Deposit of M/s Anaya Enterprises (Prop. : Shri Rakesh Sen Gupta), Village : Surjudih, Thana : Nimighat, Distt. : Giridih, Jharkhand (1.190 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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35. Chakarbarai Stone Deposit of M/s Paras Stone Works (Prop. : Shri Arihant Jhanjhri), Village : Chakarbarai, Tehsil : Dumri, Distt. : Giridih, Jharkhand (4.635 Ha).

(Proposal no.: SIA/JH/MIN/ 536004 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 61095 Cum/year or 164955Tonnes /year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	**Chakarbarai Stone Deposit**	
2	Lessee:	:	**M/s Paras Stone Works** Sri Arihant Jhanjhri	
3	Lessee Address	:	Address: At - Jhanjhri Niwas, Po – Jhumri Tilaiya, District - Kodarma, Jharkhand	
4	Lease Area	:	1.875 Ha.	4.635 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital : Rs. 2031300	Recurring : Rs. 8512810 per year
7	EMP Budget	:	Capital : Rs. 831300	Recurring : Rs. 688810 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1381458 Tonnes	
10	Mine Life	:	10 Years	
11	Man power	:	16	
12	Water Requirement	:	15.53 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Jamunia river at a distance of 4.5 km in South-West direction.	
17	Nearest Habitation	:	Chakarbarai Village at a distance of 900 m in Eastern side.	
18	Nearest Rail Station	:	Parasnath railway station at a distance of 3.5 km in Western side.	
19	Nearest Air Port	:	Birsa Munda Airport at a distance of 120 km in South-West direction.	
20	Nearest Forest	:	Divisional Forest Officer, Giridih certified that the distance of reserved / protected forest is more than 250 meter from	

			proposed project site.
21	Road & Highways.	:	NH-19- Dumri - Govindpur Road at about 2.5 km in South-West direction.

CO-ORDINATES

Pillar No.	Latitude	Longitude	Pillar No.	Latitude	Longitude
1	23°59'05.05453"N	86°04'17.16186"E	53	23°58'57.95825"N	86°04'21.33329"E
2	23°59'04.89779"N	86°04'17.56088"E	54	23°58'57.71388"N	86°04'21.32004"E
3	23°59'04.75076"N	86°04'18.14477"E	55	23°58'57.60685"N	86°04'21.26089"E
4	23°59'04.71883"N	86°04'18.52482"E	56	23°58'57.53950"N	86°04'20.93556"E
5	23°59'04.61807"N	86°04'18.96031"E	57	23°58'57.54112"N	86°04'20.63593"E
6	23°59'04.46564"N	86°04'19.35696"E	58	23°58'57.90299"N	86°04'20.72698"E
7	23°59'04.42997"N	86°04'20.27759"E	59	23°58'58.07258"N	86°04'20.74289"E
8	23°59'04.32805"N	86°04'20.49553"E	60	23°58'58.23001"N	86°04'19.99744"E
9	23°59'03.96362"N	86°04'20.78069"E	61	23°58'58.45444"N	86°04'19.95582"E
10	23°59'04.05557"N	86°04'20.89157"E	62	23°58'58.63321"N	86°04'19.64557"E
11	23°59'04.30588"N	86°04'21.03020"E	63	23°58'58.85252"N	86°04'19.47335"E
12	23°59'04.17030"N	86°04'21.37292"E	64	23°58'58.84529"N	86°04'19.41722"E
13	23°59'03.64574"N	86°04'21.40475"E	65	23°58'58.78628"N	86°04'19.23046"E
14	23°59'03.63887"N	86°04'21.69037"E	66	23°58'58.87308"N	86°04'19.00279"E
15	23°59'03.57526"N	86°04'21.84064"E	67	23°58'58.84410"N	86°04'18.83917"E
16	23°59'03.49346"N	86°04'21.82717"E	68	23°58'58.88374"N	86°04'18.63289"E
17	23°59'03.31231"N	86°04'21.74419"E	69	23°58'58.92856"N	86°04'18.50804"E
18	23°59'03.14372"N	86°04'21.60498"E	70	23°58'58.74542"N	86°04'18.39529"E
19	23°59'02.97553"N	86°04'21.53597"E	71	23°58'58.66892"N	86°04'18.11777"E
20	23°59'02.95321"N	86°04'21.40036"E	72	23°58'58.69056"N	86°04'17.85360"E
21	23°59'03.00566"N	86°04'21.25862"E	73	23°58'58.84424"N	86°04'17.66150"E
22	23°59'02.32141"N	86°04'20.98132"E	74	23°58'59.48497"N	86°04'17.63537"E
23	23°59'01.52974"N	86°04'20.72708"E	75	23°58'59.57328"N	86°04'17.73023"E
24	23°59'01.36882"N	86°04'20.62142"E	76	23°58'59.44584"N	86°04'17.99515"E
25	23°59'01.51274"N	86°04'19.74299"E	77	23°58'59.36455"N	86°04'18.20921"E
26	23°59'01.00579"N	86°04'19.55564"E	78	23°58'59.33784"N	86°04'18.35756"E
27	23°59'00.41075"N	86°04'19.25407"E	79	23°58'59.73841"N	86°04'18.59063"E
28	23°58'59.97788"N	86°04'20.40686"E	80	23°58'59.96780"N	86°04'18.61932"E
29	23°59'00.67794"N	86°04'20.69350"E	81	23°59'00.04816"N	86°04'18.24798"E
30	23°59'00.94067"N	86°04'20.89387"E	82	23°59'00.17027"N	86°04'17.95498"E
31	23°59'01.11988"N	86°04'20.93750"E	83	23°59'00.17927"N	86°04'17.74142"E
32	23°59'01.47912"N	86°04'21.10264"E	84	23°59'00.50449"N	86°04'17.74474"E
33	23°59'01.35316"N	86°04'21.49104"E	85	23°59'00.68032"N	86°04'17.79964"E
34	23°59'01.89510"N	86°04'21.71280"E	86	23°59'00.64133"N	86°04'18.18192"E
35	23°59'01.86137"N	86°04'22.43039"E	87	23°59'01.06595"N	86°04'18.40919"E
36	23°59'01.61956"N	86°04'22.37956"E	88	23°59'01.29314"N	86°04'18.42442"E
37	23°59'01.61282"N	86°04'21.98168"E	89	23°59'01.59356"N	86°04'18.59642"E
38	23°59'01.08334"N	86°04'21.86843"E	90	23°59'01.76352"N	86°04'18.53904"E
39	23°59'00.93102"N	86°04'21.71222"E	91	23°59'01.94266"N	86°04'18.28495"E

40	23°59'00.74443"N	86°04'21.58622"E	**92**	23°59'01.95133"N	86°04'18.01524"E
41	23°59'00.35830"N	86°04'21.46166"E	**93**	23°59'02.28703"N	86°04'18.04652"E
42	23°59'00.22906"N	86°04'21.71726"E	**94**	23°59'02.46451"N	86°04'17.52283"E
43	23°58'59.95222"N	86°04'21.45709"E	**95**	23°59'02.49371"N	86°04'17.23048"E
44	23°58'59.63444"N	86°04'21.25711"E	**96**	23°59'02.44403"N	86°04'16.69717"E
45	23°58'59.03436"N	86°04'21.03672"E	**97**	23°59'02.57816"N	86°04'16.68497"E
46	23°58'59.10506"N	86°04'20.63554"E	**98**	23°59'02.78390"N	86°04'16.56552"E
47	23°58'58.93100"N	86°04'20.58852"E	**99**	23°59'03.51614"N	86°04'16.45352"E
48	23°58'58.82153"N	86°04'20.69418"E	**100**	23°59'03.76339"N	86°04'16.36748"E
49	23°58'58.76429"N	86°04'20.90431"E	**101**	23°59'03.94080"N	86°04'16.50040"E
50	23°58'58.73977"N	86°04'21.40259"E	**102**	23°59'04.37258"N	86°04'16.77817"E
51	23°58'58.52291"N	86°04'21.38542"E	**103**	23°59'04.75620"N	86°04'16.90651"E
52	23°58'58.35043"N	86°04'21.31550"E			

LAND DETAILS

Khata no.	Plot no.
52	207 & 208
53	210 & 223
63	193 & 224
35	192 (P), 228 & 226 (P)
78	205 (P)
32	204 (P)
58	202 (P) & 209

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 156/M, dated 03.03.2025.
2	CO	:	The CO, Dumri (Giridih) vide letter no. 27, dated 10.01.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 182/M, dated 06.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 2199, dated 17.10.2024 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 3493, dated 29.10.2024 certified that the distance of reserved /

			protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 88, Sl. No. 26).
7	Gram Sabha	:	BDO, Dumri (Giridih) vide letter no. 30 dated 09.01.2025 informed that Gram Sabha conducted on 07.01.2025.
8	Mine Plan Approval	:	Approved by The Asststant Director Geology, District Geological Office, Koderma vide Memo No. 92, dated 30.04.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.786 Ha.	Life of Mine – 10 years
3	Waste Generation	:	43678 cum	
4	Stripping Ratio	:	1:0.03	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	302 m AMSL to 293 m AMSL	
8	Ground Level Elevation	:	291 m AMSL	
9	Ultimate Working Depth	:	260 m AMSL	
10	Water Table	:	240 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	69 kg/day (To be handle by licensed external Agency)	
13	Diesel/Fuel requirement	:	330 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum
1st Year	51118	138018	18644	2690	21334
2nd Year	52799	142558	10384	2779	13163
3rd Year	55265	149216	0	2909	2909
4th Year	58068	156783	0	3056	3056
5th Year	61095	164955	0	3216	3216

Total	**278344**	**751530**	**29028**	**14650**	**43678**

Land Use

Lana Utilization	Existing Land use (Ha)	At the end of plan Period (ha)	At Conceptual period (Ha)
Excavation	0.0	0.786	1.168 (0.429 Ha area shall be backfilled, 0.596 ha area shall be developed as water reservoir and 0.143 ha left as dead benches).
Waste Dump	0.0	0.368	Nil (waste dump to be removed and backfilled)
Road	0.0	0.003	0.0
Infrastructure (Crusher)	0.0	0.0	0.0
Safety Zone Plantation	0.0	0.707	0.707
Total	**00**	**1.864**	**1.875**
Unused Area	1.875	0.011	0.00
Total Lease Area	**1.875**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.71	1131	0.71 X 1600 = 1131 2.5m X2.5m Spacing triple row	1st Year
Approach Road (m)	100.00	100	2m X 2m Spacing in a single row	1st Year
Plantation on dead bench	0.143 Ha	229	0.143 X 1600 = 229	Mine Closure
Plantation on backfilled area	0.429 Ha	686	0.429 X 1600 = 686	Mine Closure
Total		**2146**		
Species: *Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "2146" number of trees	369300.00	61550.00
Water Facility for Horticulture "7.3872" KLD & Dust Suppression "7.5" KLD (Annual Water Demand "4466.16"KL @4L per Tanker, total number of tanker required ("1117") and per tanker cost @Rs. 500)	0.00	558500.00
Garland Drain & Desiltation Pond	187500.00	18750.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**556800.00**	**68880 0.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

It has been calculated that total 43678 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 21839 cum (In situ) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 21839 cum in situ 27298.56 cum loose & 23203.78 cum compact waste shall be temporary dumped in Southern part of the applied area and it will cover about 0.368 ha area. A garland drain and settling pond shall be constructed around the waste dump.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.

- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6

4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others

may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable

levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.

- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge

of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

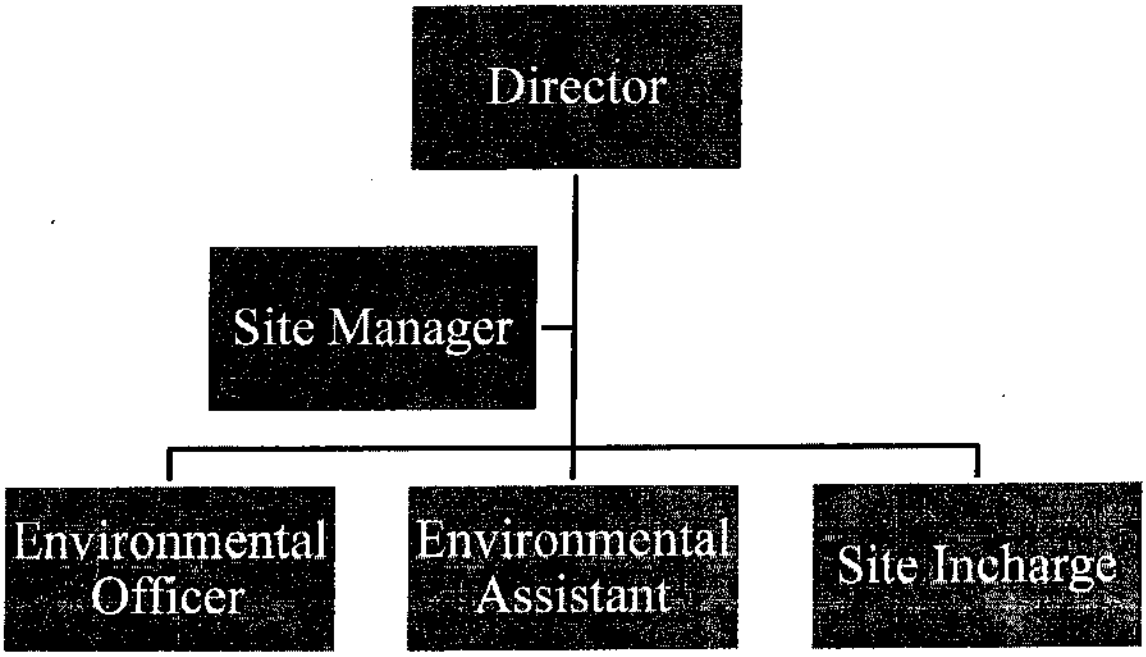
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Chakarbarai Stone Deposit of M/s Paras Stone Works (Prop. : Shri Arihant Jhanjhri), Village : Chakarbarai, Tehsil : Dumri, Distt. : Giridih, Jharkhand (4.635 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFF Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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36. Surjudih & Belma Stone Deposit of Shri Arihant Jhanjhri, Village : Surjudih, Anchal : Dumri, Distt. : Giridih, Jharkhand (1.797 Ha).

(Proposal no.: SIA/JH/MIN/ 535996 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 126629 Tonnes /year or 46900 cum/year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Surjudih & Belma Stone Deposit	
2	Lessee:	:	Sri Arihant Jhanjhri	
3	Lessee Address	:	Address: At – S/o- Sri Narendra Kumar Jhanjhri, Jhanjhri Niwas, Po – Jhumri Tilaiya, Jharkhand	
4	Lease Area	:	1.797 Ha.	4.44 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 2570940	Recurring: Rs. 8563720 per year
7	EMP Budget	:	Capital: Rs. 816000.00	Recurring: Rs. 726520 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1128149 Tonnes	417832.96 Cum
10	Mine Life	:	10 Years	
11	Man power	:	25	
12	Water Requirement	:	15.73 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Jamunia river at a distance of 2.3 km in North-West direction	
17	Nearest Habitation	:	Nagri Village at a distance of 0.70 km in South-West direction.	
18	Nearest Rail Station	:	Nimiaghat railway station at a distance of 1.2 km in West direction.	
19	Nearest Air Port	:	Deoghar airport at a distance of 120 km in North-East direction.	
20	Nearest Forest	:	Divisional Forest Officer, Giridih certified that the distance of reserved / protected forest is more than 250 meter from	

			proposed project site.
21	Road & Highways	:	NH 19- Bagodar-Dhanbad Road at a distance of 1.4 km in North direction.

CO-ORDINATES

SL. NO	LATITUDE	LONGITUDE
1	23°55'53.61146" N	86°05'20.02272" E
2	23°55'53.56214" N	86°05'20.41051" E
3	23°55'53.39575" N	86°05'20.78603" E
4	23°55'53.36472" N	86°05'21.06892" E
5	23°55'52.97340" N	86°05'21.80915" E
6	23°55'52.95248" N	86°05'22.05449" E
7	23°55'52.73771" N	86°05'22.10467" E
8	23°55'52.61041" N	86°05'22.68582" E
9	23°55'52.46404" N	86°05'22.95640"E
10	23°55'52.53013" N	86°05'23.07383" E
11	23°55'52.24984" N	86°05'23.39214" E
12	23°55'52.22453" N	86°05'23.76668" E
13	23°55'52.10620" N	86°05'24.11941" E
14	23°55'52.39909" N	86°05'24.14962" E
15	23°55'52.40366" N	86°05'24.33674" E
16	23°55'52.54367" N	86°05'24.74009" E
17	23°55'52.59320" N	86°05'24.96808" E
18	23°55'52.52952" N	86°05'25.13699" E
19	23°55'52.34920" N	86°05'25.19441" E
20	23°55'52.15058" N	86°05'25.18940" E
21	23°55'51.99085" N	86°05'25.23545" E
22	23°55'51.82817" N	86°05'25.24790" E
23	23°55'51.69688" N	86°05'25.21813" E
24	23°55'51.60032" N	86°05'25.13465" E
25	23°55'51.52699" N	86°05'25.38506" E
26	23°55'51.66980" N	86°05'25.43730" E
27	23°55'51.94762" N	86°05'25.34525" E
28	23°55'52.30013" N	86°05'25.25413" E
29	23°55'52.46911" N	86°05'25.89684" E
30	23°55'52.67258" N	86°05'26.26606" E
31	23°55'53.04209" N	86°05'26.77632" E
32	23°55'53.18123" N	86°05'27.03181" E
33	23°55'53.18152" N	86°05'27.36686" E
34	23°55'53.03636" N	86°05'28.13345" E
35	23°55'52.96080" N	86°05'28.44841" E
36	23°55'52.56358" N	86°05'28.27576" E
37	23°55'52.49348" N	86°05'27.77089" E
38	23°55'52.49770" N	86°05'27.29432" E
39	23°55'52.53607" N	86°05'27.11357" E

40	23°55'52.32842" N	86°05'26.60294" E
41	23°55'51.91396" N	86°05'26.31782" E
42	23°55'51.83004" N	86°05'26.42784" E
43	23°55'52.06008" N	86°05'26.61418" E
44	23°55'52.20041" N	86°05'26.77420" E
45	23°55'52.29548" N	86°05'27.14413" E
46	23°55'52.31266" N	86°05'27.42853" E
47	23°55'52.13071" N	86°05'27.50280" E
48	23°55'52.16246" N	86°05'27.92562" E
49	23°55'51.87576" N	86°05'28.31881" E
50	23°55'51.68122" N	86°05'28.32126" E
51	23°55'51.43746" N	86°05'28.12643" E
52	23°55'51.25555" N	86°05'27.88890" E
53	23°55'51.00805" N	86°05'27.93181" E
54	23°55'50.69208" N	86°05'27.76664" E
55	23°55'50.25191" N	86°05'27.52264" E
56	23°55'50.29021" N	86°05'27.01698" E
57	23°55'50.18419" N	86°05'26.54606" E
58	23°55'50.06564" N	86°05'26.26318" E
59	23°55'49.74118" N	86°05'26.09509" E
60	23°55'49.34842"N	86°05'25.29438" E
61	23°55'49.60182" N	86°05'24.93182" E
62	23°55'49.51956" N	86°05'24.83023" E
63	23°55'50.52306" N	86°05'23.95586" E
64	23°55'50.53440" N	86°05'23.58571" E
65	23°55'50.58232" N	86°05'23.39779" E
66	23°55'50.49408" N	86°05'23.31222" E
67	23°55'50.22746" N	86°05'22.96079" E
68	23°55'50.27963" N	86°05'22.44278" E
69	23°55'50.49534" N	86°05'22.26156" E
70	23°55'50.63282" N	86°05'21.94055" E
71	23°55'50.89994" N	86°05'20.85490" E
72	23°55'50.76066" N	86°05'19.99673" E
73	23°55'50.93742" N	86°05'19.34408" E
74	23°55'50.70288" N	86°05'18.95827" E
75	23°55'50.68045" N	86°05'18.66080" E
76	23°55'50.86499" N	86°05'18.44614" E
77	23°55'51.15421" N	86°05'18.47216" E
78	23°55'51.37198" N	86°05'18.63910" E
79	23°55'51.57433" N	86°05'18.81737" E
80	23°55'51.73000" N	86°05'18.95107" E
81	23°55'51.68586" N	86°05'19.34444" E
82	23°55'51.53837" N	86°05'19.71611" E
83	23°55'51.20288" N	86°05'19.71845" E
84	23°55'51.11116" N	86°05'19.91562" E
85	23°55'51.14899" N	86°05'20.20175" E
86	23°55'51.93419" N	86°05'20.30856" E

87	23°55'52.10242" N	86°05'19.95360" E
88	23°55'52.43657" N	86°05'19.91638" E
89	23°55'52.48499" N	86°05'20.10174" E
90	23°55'52.62762" N	86°05'20.07265" E
91	23°55'52.70081" N	86°05'19.94111" E
92	23°55'52.88491" N	86°05'19.94356" E
93	23°55'53.01455" N	86°05'20.04374" E
94	23°55'53.20513" N	86°05'19.97689" E

LAND DETAILS

Khata no.	Plot no.
31	48, 49 & 51
12	60, 53 (P), 55, 56 (P) & 50 (P)
6	296, 297 & 298

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Giridih vide letter no. 832/M, dated 02.08.2023.
2	CO	:	The CO, Dumri (Giridih) vide letter no. 548, dated 07.07.2023 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in Khatiyan.
3	DMO Cluster	:	DMO, Giridih vide memo no. 439/M, dated 29.04.2025 certified that 02 other LoI (2.94 Acre & 4.55 Acre) exists within 500 meters radius from proposed project site and total area is 11.93 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Hazaribag vide letter no. 1517, dated 19.07.2023 certified that the proposed project site is outside Eco Sensitive Zone of Parasnath & Topchanchi Wildlife Sanctuary.
5	DFO Territorial	:	Divisional Forest Officer, Giridih East Forest Division vide letter no. 1956, dated 13.06.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Giridih District (Page no. 87, Sl. No. 23).
7	Gram Sabha	:	Gram Sabha conducted on 01.07.2023.
8	Mine Plan Approval	:	Approved by The Asststant Director Geology, District Geological Office, Koderma vide Memo No. 90, dated 28.04.2025.

9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.609 Ha.	Life of Mine – 10 years
3	Waste Generation	:	21344 cum	
4	Stripping Ratio	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	278m AMSL to 270 m AMSL	
8	Ground Level Elevation	:	268m AMSL	
9	Ultimate Working Depth	:	238 m AMSL	
10	Water Table	:	230 m AMSL	
11	Topography of Mine	:	Area represents gently sloping land.	
12	Explosive Requirement	:	53 kg/day (To be managed by external licensed agency)	
13	Diesel/Fuel requirement	:	253 litre/day	

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum
1st Year	36282	97962	9592	1910	11502
2nd Year	36700	99091	1056	1932	2988
3rd Year	40044	108120	0	2108	2108
4th Year	43305	116923	0	2279	2279
5th Year	46900	126629	0	2468	2468
Total	**203232**	**548725**	**10648**	**10696**	**21344**

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan Period (ha)	At Conceptual period (Ha)
Quarry	NIL	0.609	1.074 (0.127 Ha area shall be backfilled upto surface level, 0.534 Ha area shall be developed as water reservoir and 0.413 Ha left as dead benches).
Waste Dump	NIL	0.357	Nil (waste dump to be removed and

			backfilled)
Road	NIL	0.003	0.0
Safety Zone Plantation	NIL	0.723	0.723
Total	**00**	**1.692**	**1.797**
Unused Area	1.797	0.105	0.00
Total Lease Area	**1.797**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.723	1157	0.723 X 1600 = 1157 2.5m X 2.5 m. Spacing triple row	1st Year
Approach Road (m)	100.00	100	2m X 2m Spacing in a single row	1 st Year
Plantation on dead bench	0.413 Ha	661	0.413 X 1600 = 661	Mine closure
Plantation on backfilled area	0.127 Ha	203	0.127 X 1600 = 203	Mine closure
Total		**2121**		
***Species:** Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

Budgetary Provision (in Lakhs) of Environment Management Plan (EMP)		
Particulars	**Capital**	**Recurring**
Plantation of "2121" number of trees @Rs.300 per tree for plant & @Rs. 50 per tree for maintenance	636300.00	106050.00
Water Facility for Horticulture "7.5408" KLD & Dust Suppression "7.188" KLD (Annual Water Demand "4418.64"KL @4KL per Tanker, total number of tanker required "1105" and per tanker cost @Rs. 500)	0.00	552500.00

Garland Drain & Desiltation Pond	179700.00	17970.00
Environment Monitoring & Compliance	0.00	50000.00
Total	**816000.00**	**726520.00**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

It has been calculated that total 21344 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 10672 cum (Insitu) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 10672 cum in situ 13340.25 cum loose & 11339.21 cum compact waste shall be temporary dumped in western part of the applied area and it will cover 0.357 Ha area. A garland drain and settling pond shall be constructed around the waste dump.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20

7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is **"Acceptable"**

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.

- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground.

Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.

- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

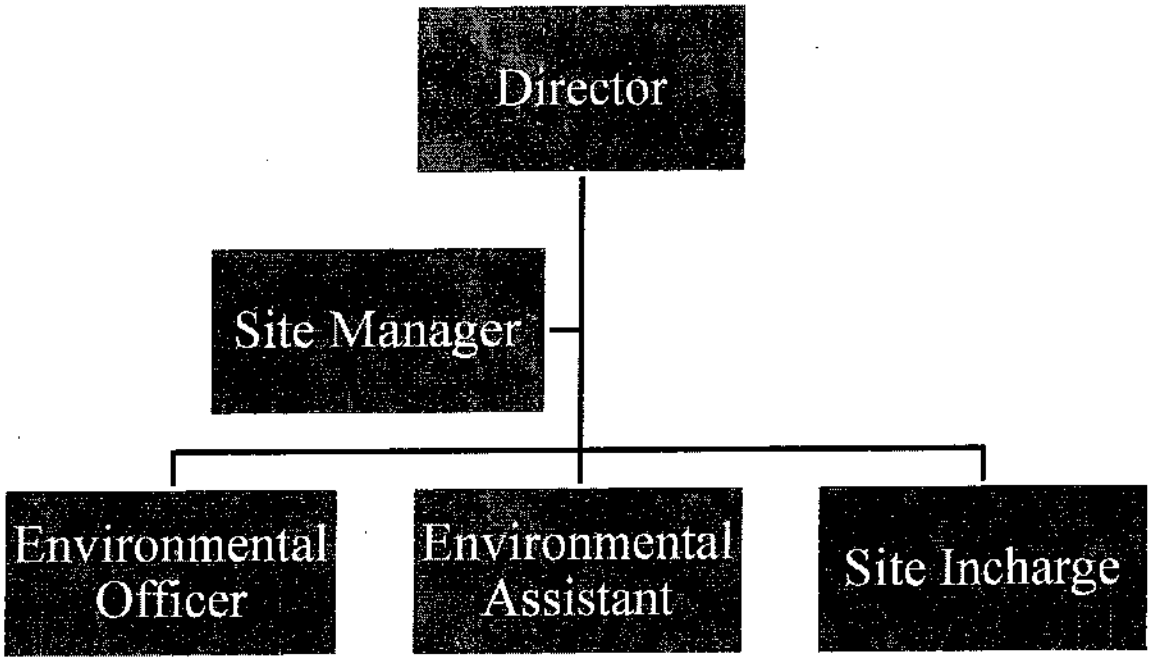
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports

- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Surjudih & Belma Stone Deposit of Shri Arihant Jhanjhri, Village : Surjudih, Anchal : Dumri, Distt. : Giridih, Jharkhand (1.797 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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37. **Kasar Bhita Stone Deposit of M/s Empire Stone (Partner : Shri Rajesh Kumar Jaiswal & Others), Village : Kasar Bhita, Tehsil : Mandro, Distt. : Sahibganj, Jharkhand (2.428 Ha).**

(Proposal no.: SIA/JH/MIN/ 530323 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 186193 Tonnes per year or 68961 cum per year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Kasar Bhitta Stone Deposit	
2	Lessee:	:	M/s Empire Stone Partner – 1. Smt. Nimisha Kumari and 2. Sri Rajesh Kumar	
3	Lessee Address	:	Address: Mahadevran, P.O. - Mirzachowki, Thana: Mirzachowki District: Sahibganj, Jharkhand	
4	Lease Area	:	2.428 Ha.	6.00 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. 1712000	Recurring: Rs 4885980 per year
7	EMP Budget	:	Capital: Rs. 490300	Recurring: Rs. 570030 per year
8	New or Expansion	:	New	
9	Mineable Reserves	:	1733299 Tonnes	641963 cum
10	Mine Life	:	10 Years	
11	Man power	:	18	
12	Water Requirement	:	15.38 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Ganga River at a distance of 12.5 km in North-East direction.	
17	Nearest Habitation	:	Barmasia village at a distance of 2.1 km in South direction.	
18	Nearest Rail Station	:	Karamtola Railway Station at a distance of 4 km in North-East direction.	
19	Nearest Air Port	:	Deoghar Airport at a distance of 225 km in South-West	

			direction.
20	Nearest Forest	:	Open Mixed Jungle (0.7 Km)
21	Road & Highways	:	NH-33 Sahibganj-Rajmahal road is 4.5 km away from the applied lease area in North direction.

PILLAR_NO	LATITUDE	LONGITUDE
1	25°13'24.97"N	87°32'01.98"E
2	25°13'24.77"N	87°32'04.28"E
3	25°13'23.02"N	87°32'07.74"E
4	25°13'22.26"N	87°32'08.29"E
5	25°13'21.63"N	87°32'07.96"E
6	25°13'21.80"N	87°32'06.49"E
7	25°13'20.61"N	87°32'05.89"E
8	25°13'19.17"N	87°32'06.50"E
9	25°13'18.39"N	87°32'06.41"E
10	25°13'18.86"N	87°32'04.13"E
11	25°13'19.67"N	87°32'01.38"E
12	25°13'22.14"N	87°32'02.10"E
13	25°13'22.66"N	87°32'01.86"E
14	25°13'23.22"N	87°32'01.96"E
15	25°13'23.36"N	87°32'01.54"E
16	25°13'24.11"N	87°32'01.53"E
17	25°13'24.14"N	87°32'01.96"E
18	25°13'24.42"N	87°32'01.96"E

LAND DETAILS

Khata no.	Plot no.
03	32, 33, 34 & 40 (P)
13	35
20	36 (P)
14	39 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Sahibganj vide letter no. 379/M, dated 27.02.2025.
2	CO	:	The CO, Mandro vide memo no. 121/Ra., dated 02.03.2021 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S.Khatiyan & Register II.

3	DMO Cluster & Grid Certificate	:	DMO, Sahibganj vide memo no. 489/M, dated 18.03.2025 certified that no other mining lease area exists within 500 meters radius from proposed project site and also certified that the proposed project site is outside of Redzone Grid 1, 3, 4 & 7.
4	DFO Wild Life	:	DFO –cum- Incharge Wildlife Sanctuary, Udhwa (Sahibganj) vide letter no. 624, dated 27.03.2024 certified that the proposed project site is outside Eco Sensitive Zone of Udhwa Bird Sanctuary.
5	DFO Territorial	:	Division Forest Officer, Sahibganj Forest Division vide letter no. 625, dated 27.03.2024 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	The LoI was granted on 27.02.2025. The DSR for Sahibganj was approved by the Sub-Divisional Committee on 21.12.2024 and submitted to SEIAA for approval on 16.01.2025. However, this project lies within the potential village in page no. 198 of approved DSR. However, DMO, Sahibganj vide letter no. 682/M, Dated 24.04.2025 requested to consider the said project proposal as part of chapter 13 (LoI Holder list in the District) of approved District Survey Report & further requested that this project may be taken up for consideration for grant of EC. The Committee accepted the request of the DMO, Sahibganj.
7	Gram Sabha	:	Gram Sabha conducted on 15.02.2021.
8	Mine Plan Approval	:	Approved by District Mining Officer, Sahibganj vide Letter No. 490/M, dated 18.03.2025.
9	Qualified Person	:	Shri Vidya Bhushan Mishra was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	1.450 Ha	Life of Mine – 10 years
3	Waste Generation	:	62161 cum	
4	Stripping Ratio	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	217 m AMSL to 193 m AMSL	
8	Ground Level	:	191 m AMSL	

	Elevation		
9	Ultimate Working Depth	:	158 m AMSL
10	Water Table	:	140 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	11.65 kg/day (To be handled by external licenced agency)
13	Diesel/Fuel requirement	:	70 litre/day

Production Details

Year	Production of Stone in cum	Production of Stone in Tonnes	Overburden in cum	Intercalated waste in cum	Total Waste in cum
1st Year	62178	167879	26690	3273	29963
2nd Year	63793	172240	17340	3358	20698
3rd Year	64600	174420	0	3400	3400
4th Year	65569	177036	1020	3451	4471
5th Year	68961	186193	0	3630	3630
Total	**325100**	**877769**	**45050**	**45050**	**62161**

Land Use

Land Utilization	Existing Land use (Ha)	At the end of plan Period (Ha)	At Conceptual period (Ha)
Excavation	NIL	1.450	1.922 (0.262 Ha area shall be backfilled upto surface level, 0.888 Ha area shall be left as water reservoir and 0.772 Ha left as dead benches).
Waste Dump	NIL	0.464	Nil (waste dump to be removed and backfilled)
Road	NIL	0.002	0.00
Safety Zone Plantation	NIL	0.506	0.506
Total	**0.000**	**2.422**	**2.428**
Unused Area	2.428	0.006	0.0
Total Lease Ares	**2.428**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.506	810	0.506 X 1600 = 810 2.5m X2.5m Spacing triple row	1st Year
Approach Road (m)	100.00	100	2m X 2m Spacing in a single row	1st Year
Plantation on dead bench	0.772 Ha	1235	0.772 X 1600 = 1235	Mine Closure
Plantation on backfilled area	0.262 Ha	419	0.089 X 1600 = 419	Mine Closure
Total		**2564**		
***Species:** Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species*				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

BUDGETARY PROVISION FOR ENVIRONMENT MANAGEMENT PLAN (EMP)		
2564 Tree Plantation @Rs.300 per Tree for planting & @Rs.50 per tree for maintenance	769200	128200
Water Tanker @Rs. 500 per Tanker for Dust Suppression (9.71 KLD) & Horticulture (4.95 KLD) 9.71 + 4.95 = 14.66 KLD 14.66 KLD X 300 Days = 4398 KLD 4398 KLD / 4 KLD = 1099 Tankers	0	549500
Garland Drain & Parapet wall	242800	24280
Environment Monitoring & Compliance	0	50000
Total	1012000	751980

<u>Environment Monitoring Plan (post operation)</u>

<u>Monitoring Parameters and Frequency of Monitoring</u>

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.	2 Stations	Six Monthly
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

Total 62161 cum in-situ waste shall be generated during this plan period. The 50% of waste generated during the plan period i.e. 31080 cum (In situ) shall be utilized for approach & haul road maintenance. The rest waste material (50%) i.e. 31080 cum in situ 38850.31 cum loose & 33022.77 cum compact waste shall be temporary dumped on the southern part of the applied lease area and it will cover about 0.464 Ha area.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.

- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads
- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

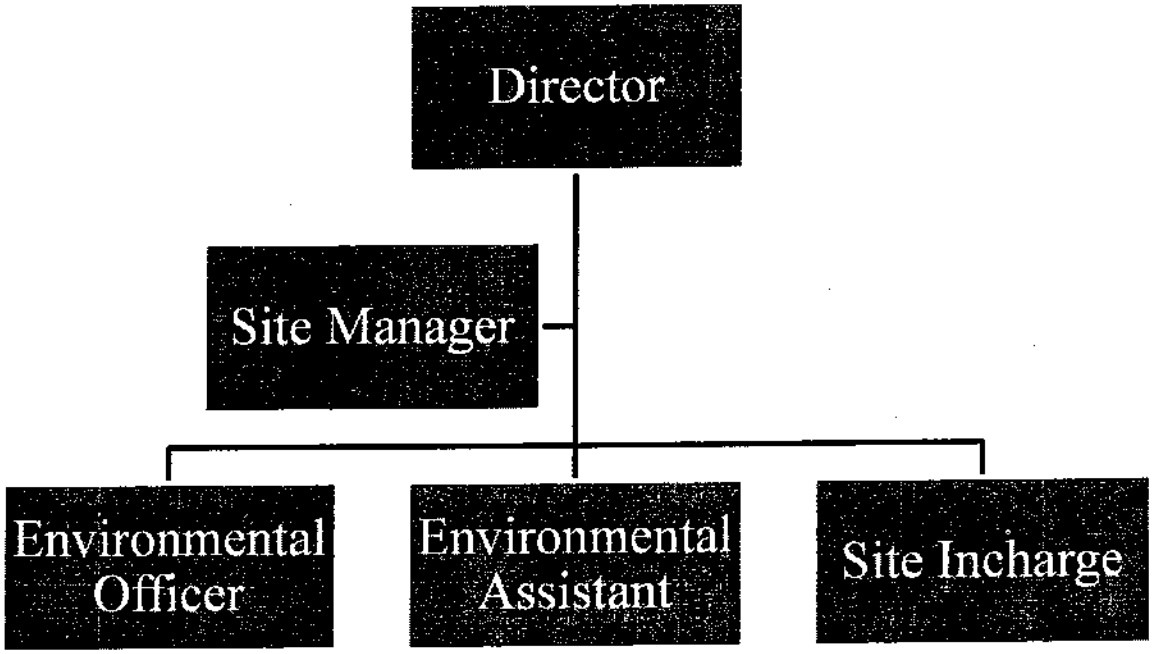
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities
- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training

- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard

d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.
l. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kasar Bhita Stone Deposit of M/s Empire Stone (Partner : Shri Rajesh Kumar Jaiswal & Others), Village : Kasar Bhita, Tehsil : Mandro, Distt. : Sahibganj, Jharkhand (2.428 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign "*Ek Ped Ma Ke Naam*" and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.
II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.
III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.
IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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38. Kanadih Stone Deposit of Shri Budhwa Munda, Village : Kanadih, Tehsil : Khunti, Distt. : Khunti, Jharkhand (1.01 Ha).

(Proposal no.: SIA/JH/MIN/ 535334 /2025)

Name of the consultant : Crystal Consultants, Ranchi, Jharkhand

This is a new project which has been taken for appraisal on 10.05.2025.

Project Sector: 1(a) Mining of Minerals, Category: B2.

Application for Environmental Clearance (EC).

EC Application for: Proposed Capacity – 34947 Tonnes per year or 12481 cum per year

Project and Location Details:

Sl	Parameter		Details	
1	Project Name	:	Kanadih Stone Deposit	
2	Lessee:	:	Sri Budhwa Munda	
3	Lessee Address	:	Address: Kanadih, P.O. - Gutjora, Thana: Khunti District: Khunti, Jharkhand	
4	Lease Area	:	1.01 Ha.	2.50 Acre
5	Type of Land	:	Non-Forest Raiyati Land	
6	Project Cost	:	Capital: Rs. **150800**	Recurring: Rs **10572750** per year
7	EMP Budget	:	Capital: Rs. **542000**	Recurring: Rs. **532250** per year
8	New or Expansion	:	New	

9	Mineable Reserves	:	123988 Cum	347167 Tonnes
10	Mine Life	:	10 Years	
11	Man power	:	27	
12	Water Requirement	:	7.90 KLD	
13	Water Source	:	By authorised hired water tankers	
14	DG Set / power	:	-	
15	Crusher	:	No crusher	
16	Nearest Water Body	:	Kanchi River at a distance of 3.08 km in North direction.	
17	Nearest Habitation	:	Chalangi village at a distance of 1.2 km in South direction.	
18	Nearest Rail Station	:	Lodhma Railway Station at a distance of 13 km in North-East direction.	
19	Nearest Air Port	:	Birsa Munda Airport, Ranchi at a distance of 30 km in North direction.	
20	Nearest Forest	:	Open Mixed Jungle (0.7 Km)	
21	Road & Highways	:	NH-20 Gumla-Khunti-Ranchi Road at a distance of about 2.20 Km in West direction.	

CO-ORDINATES:

PILLAR_NO	LATITUDE	LONGITUDE
1	N23°08'50.32"	E85°17'00.68"
2	N23°08'50.23"	E85°17'02.44"
3	N23°08'50.14"	E85°17'03.88"
4	N23°08'49.13"	E85°17'03.83"
5	N23°08'48.03"	E85°17'03.60"
6	N23°08'47.75"	E85°17'03.72"
7	N23°08'47.16"	E85°17'03.37"
8	N23°08'46.69"	E85°17'03.31"
9	N23°08'46.88"	E85°17'01.62"
10	N23°08'47.08"	E85°16'59.94"
11	N23°08'47.47"	E85°17'00.02"
12	N23°08'48.37"	E85°17'00.22"
13	N23°08'49.31"	E85°17'00.47"
14	N23°08'50.00"	E85°17'00.55"

LAND DETAILS

Khata no.	Plot no.
25	987 (P)

STATUTORY CLEARANCES

1	LOI / Lease docs	:	The Letter of Intent (LoI) has been issued by District Mining Officer, Khunti vide letter no. 710/M, dated 14.08.2024.
2	CO	:	The CO, Sadar Khunti vide letter no. 281, dated 19.02.2025 has mentioned the plot no. of the project is not recorded as "Jungle-Jhari" in R.S.Khatiyan & Register II.
3	DMO Cluster	:	DMO, Khunti vide memo no. 170/M, dated 25.02.2025 certified that 02 other mining lease area (1.60 Acre & 1.79 Acre) exists within 500 meters radius from proposed project site and total area is 5.89 Acre.
4	DFO Wild Life	:	DFO, Wildlife Division, Ranchi vide letter no. 102, dated 24.02.2025 certified that the proposed project site is outside Eco Sensitive Zone of Palkot Wildlife Sanctuary.
5	DFO Territorial	:	Division Forest Officer, Khunti Forest Division vide letter no. 272, dated 13.02.2023 certified that the distance of reserved / protected forest is more than 250 meters from proposed project site.
6	DSR	:	This project is mentioned in approved DSR of Khunti District (Page no. 51, Sl. No. 02).
7	Gram Sabha	:	Gram Sabha conducted on 09.12.2021.
8	Mine Plan Approval	:	Approved by District Mining Officer, Khunti vide Memo No. 51/Mining, dated 20.01.2025.
9	Qualified Person	:	Shri P.K. Sen was present in the meeting and affirmed that the mine plan has been prepared by him.

Working Details

1	Mining Method	:	Semi-mechanized "OTFM" Method	
2	Quarry Area	:	0.490 Ha	Life of Mine – 10 years
3	Waste Generation	:	3273 cum	
4	Stripping Ratio	:	1:0.05	
5	Working Days	:	300	
6	Benches: size & No	:	6m to 6m and 6 in numbers	
7	Elevation of Mine	:	608m AMSL to 612 m AMSL	
8	Ground Level Elevation	:	569 m AMSL	
9	Ultimate Working	:	570 m AMSL	

	Depth		
10	Water Table	:	564 m AMSL
11	Topography of Mine	:	Area represents gently sloping land.
12	Explosive Requirement	:	11.65 kg/day (To be handed by external licenced agency)
13	Diesel/Fuel requirement	:	70 litre/day

Production Details

Year	Removal of Gritty Soil		Intercalated waste	Production of stone	
	In cum	In tonnes	In cum	In cum	In tonnes
1st	912	1368	652	12382	34670
2nd	978	1467	655	12436	34820
3rd	000	000	654	12418	34772
4th	000	000	655	12436	34820
5th	000	000	657	12481	34947
Total	**1890**	**2835**	**3273**	**62153**	**174029**

Land Use

Type of Land	Present Land Use (in Ha)	At the End of Plan Period (in Ha)	At the End of Mine (in Ha)	Conceptual Period (in Ha)		
				Public Use	Water Body	Plantation
Quarry	Nil	0.490	0.73(including backfill 0.14 Ha)	-	0.54	0.19 (Dead bench plantation)
Greenbelt within Safety Barrier	Nil	0.280	0.28	-	-	0.28
Road	0.08	0.010	-	-	-	-
Dump	Nil	0.070	-	-	-	--
Parapet Wall	Nil	0.002	-	-	-	-
Garland Drain	Nil	0.004	-	-	-	-
Total Area in Use	**0.08**	**0.856**	**1.01**	**-**	**0.54**	**0.47**
Balanced Area unused	0.93	0.154	Nil	-	-	-
Total Applied Area	**1.01**	**1.010**	**1.01**	**1.01**		

ENVIRONMENT MANAGEMENT

Green Belt Development

Greenbelt Development				
	Area or Length	**Number of Tree**	**Calculation**	**Timeline**
Safety Zone (Ha.)	0.280	448	0.280 X 1600 = 448 2.5m X2.5m Spacing triple row	1st Year
Approach Road (m)	718.00	718	2m X 2m Spacing in a single row	1st Year
Plantation on dead bench	0.19 Ha	304	0.19 X 1600 = 304	Mine Closure
Total		**1470**		
Species: Neem, Peepal, Arjun, Ashoka, Gulmohar, Banyan, Bamboo, Bombas, Nutans, Toolda, Strictus & other Native Species				

- Gabion Plantation work in the safety zone (7.5 m width around the proposed lease boundary) and on either side of approach road in two rows with the spacing of 3x3 m with suitable species such as timber & fruit bearing etc. will be done in first year of operation. Maintenance work such as h/w, mortality replacement, protection and watering shall be undertaken for the life of mine as per norms and schedule issued by PCCF, Development, Department of Forest, Environment & Climate Change, Govt. of Jharkhand. Records of same to be maintained and will be submitted with compliance report.

Environment Management Budget

BUDGETARY PROVISION FOR ENVIRONMENT MANAGEMENT PLAN (EMP)		
1470 Tree Plantation @Rs.300 per Tree for planting & tree for maintenance	441000	58300
Water Tanker @Rs. 500 per Tanker for Dust Suppression (4.04 KLD) & Horticulture (6.996 KLD) 4.04 + 6.996 = 11.036 KLD 11.036 KLD X 300 Days = 3310.8 KLD 3310.8 KLD / 4 KLD = 828 Tankers	0	414000
Garland Drain & Parapet wall	101000	10100
Environment Monitoring & Compliance	0	50000
Total	**542000**	**532400**

Environment Monitoring Plan (post operation)

Monitoring Parameters and Frequency of Monitoring

S. no	Monitoring Parameters	No. of Locations	Frequency of Monitoring
1	Ambient Air: Ambient Air Quality at appropriate	2 Stations	Six Monthly

	location for PM10, PM2.5, SO2, NOx in the vicinity of the mine area. In the surrounding area covering project site only.		
2	Water: Surface water sample in the vicinity of the Project area.	2 Surface water 2 Ground water	Six Monthly
3	Noise: Day & Night level Noise Monitoring.	4 stations	Six Monthly
4	Soil: Soil Monitoring, Qualitative and quantitative testing/analysis to check the soil fertility, porosity, texture, water holding capacity, etc.	2 station	Six Monthly

Solid Waste Management

During first, second, third and fourth year gritty soil & intercalated waste will be removed (4506 m^3) this soil and waste will be temporarily backfill within the exhausted quarry and in fifth year (657 m^3) removed gritty soil, intercalated waste and existing temporary backfill soil will be backfilled within the lower bench of the exhausted quarry.

Water Quality Management

- Mining will be confined to above Ground Water Table (GWT). No mining will be done below GWT.
- Rainwater in quarry will be collected in a collection pit at mine floor. Arrangements would be made for pumping out this water regularly during rainy season.
- Water pumped out from quarry would be collected in a settling sump to be located within lease area. Desilted water will be allowed to flow into natural drainage.
- Garland drain would be provided on upper contour around the quarry. Water collected in Garland drain would be diverted to natural drainage system.
- Foot wall & Drain would be provided at edge of external dump water collected in foot drain would be diverted to settling sump for desilting.
- Sewage from rest shelter would be treated in Septic Tank soak pit.

Air Quality Management

Drilling – Drilling is a major source for emission of dust & Noxious Gases.

Mitigation measures:

Use of Sharp Drill Bits

Wet Drilling – Water will be sprinkled on the site where drilling has to be done.

Blasting – Blasting generate gases & dust. This effect would be mitigated by following measures.

- Controlled blasting would be practiced
- Optimum quantity of explosives would be used.
- Blasting to be done during favorable weather conditions.

Operation of Diesel Equipment's – They generate Noxious gases. It will be ensured that all mining machineries & transport vehicles would be repaired & maintained regularly.

Loading of Product on Truck – Water will be sprinkled on blasted stone mass before they are loaded to trucks for transport.

Movement of Trucks on Road – Movement of Trucks on Road generate dust For mitigation of this pollution following measures will be taken

- ✓ Regular water sprinkling on Gaul road by using water Tankers.
- ✓ Regular repair of Haul road
- ✓ All Trucks carrying stone outside lease area will have PUC certificate.

RISK ASSESSMENT

The hazard identification and risk analysis are done using qualitative method:

Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity	Score*
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic	5
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic	5
3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major	6
4	Drilling	Exposure to Dust	Frequent	Insignificant	5
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate	6
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor	20
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor	16

NOTE: - *Score 1 to 4 High Risk, 5 to 12 Medium Risk & 13 to 25 is low risk.
The risk score lies between 5 to 20. Hence, the risk in stone quarry ranges from Medium to Low-Risk Rank and hence the risk is "**Acceptable**"

Preventive Measures:

Slope Failure

Face instability gives rise to rock falls or slides. Face instability can arise because of adverse geological faulting or poor work methods. Those at greatest risk will be workers engaged in loading material and driving vehicles. To manage the face stability, the Following measures will be taken:

- Overall slope angles of benches will be maintained at 45°.
- Unmanageable heights are not created.
- Loose sides are properly dressed.
- No loose stone or debris will be permitted to remain on the top of the bench or side of any excavation (Regulation 106(4) of MMR 1961).
- No undercutting of any face or sides will be permitted so as to cause any overhanging (Regulation 106(5) of MMR 1961)

Drilling Operations

Drilling is common to the mining of stones. The main hazards linked to the drilling operations are:

- Falls from the edge of a bench
- Dust generation during drilling
- Noise Generation due to drilling
- Entrapment in by moving part of the drilling equipment

Falls from the edge of a bench

While the primary hazard is that of the driller falling over the edge of a working or abandoned bench, the risk of minerals or materials falling onto workers at the foot of the face should not be overlooked. A face and bench are a necessary part of a working quarry and therefore it is not possible to remove the hazards associated with them. While others may need to work at or near the edge of a working bench the person most at risk during the drilling operation is the driller. Others such as the manager of the mine or maintenance personnel, may approach the bench edge during the drilling operation in the event of a breakdown of the drilling equipment.

Control Measures

- It will be ensured that the drilling equipment is suitable for the job.
- The person in charge of the drilling machine is competent to carry out the drilling operation; part of the training includes instructions to always face towards the open edge of the bench so that any inadvertent backward step is away from the edge.
- Provision of portable rail fencing between the drilling operations and the edge of the bench
- Provision to attach a safety line to the drilling rig and provide a harness for the driller to wear.
- Restricted access to the area to all persons except those necessary for the drilling operation.

Dust generation during drilling

The hazard is the inhalation of dust which is created during the drilling operation. Properly applied control measures can substantially reduce the risk to the drill operator.

- Wet drilling will be carried out by constantly injecting a jet of water at the drill bit inside the hole, which prevents dust generation.
- In case due to any reason, wet drilling is not possible (due to non-availability of water), exhaust/ vacuum system will be provided which removes the dust from the drill hole continuously and discharges the same in a dust collector specially provided for the purpose.
- Drilling machine shall be fitted with dust suppression, collection and disposal arrangement.
- Deep wetting of drilling zones will be done by water sprinkling before starting drilling.

Noise Generation during drilling

Drilling operations give rise to harmful levels of noise. It is created by both drilling the hole and the operation of the drill rig itself.

The noise levels around drilling equipment will be continuously measured and the risk will be assessed. Unless control measures are in place no-one, except those necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.

The risk is highest at older machines. Newer large drilling machines are provided with sound insulated operating cabins which control the noise level within the cabins to acceptable levels. Hence, it will be ensured that newly updated machines will be used for drilling. Other control measures will include training operators and providing them with ear protection, although the latter should only be seen as an interim precaution until a permanent solution can be found.

Blasting Operations

Most of the accidents from blasting occur due to the projectiles and mainly due to overcharging of the shot holes as a result of certain special features of the local ground. Flying rocks are encountered during initial and final blasting operations. Noise and dust also generated during blasting. Following control measures should be taken:

- Blast hole geometry shall be properly designed.
- Blast site shall be wetted before and after blasting operations are completed.
- Only optimum quantity of permissible explosives shall be used so that the vibrations do not damage the structures/houses if the quarrying operations are close to human habitation.
- Blasting shall be conducted only during favourable weather conditions and only during the day time and permissible hours.
- While carrying out blasting operations near habitations, wide publicity will be given in the local area through announcement and other available media so that local people become aware of the blasting activities being undertaken in the area and take appropriate precautions.
- The vibrations should be monitored periodically in consultation with the local Mining authorities.

Handling of Explosives

Explosives by virtue of their nature have the potential for the most serious and catastrophic accidents in the mining operations yet the way they are used is an excellent example of how risk assessment is properly applied. For example, persons holding blasters certificate granted by DGMS with proper training in explosive handling and use will be allowed for blasting operations.

- Use of explosives is specialist work. Planning for a round of shots is necessary to ensure that the face is properly surveyed, holes correctly drilled, direction logged, the weight of explosive suitable for good fragmentation and the continuity of the initiator are but a few of the steps necessary to ensure its safe use.
- Poorly designed shots can result in misfires, early ignition and flying rock.

The storage of the explosives and its transfer to and from the quarry area shall be strictly in accordance with the conditions listed in the permission granted by Explosives Department. Few conditions are listed below:

- Proper and safe storage of explosives in approved and Licensed Magazine.
- Proper security system to prevent theft/ pilferage, unauthorized entry into Magazine area and checking authorized persons to prevent carrying of match box, lights, mobile phones, cigarette or Bidi etc. will be put in place.
- Explosives shall be conveyed in special containers.
- Explosives and detonators shall not be carried in the same container.
- The holes which have been charged with explosives will not be left unattended till blasting is completed.

Health Hazards

Health hazards should be interpreted as being harmful dust and noise which is emitted during surface mining operations. All suitable steps and precautions will be undertaken to ensure minimum health hazard. Provision of use of Personal Protective Equipment (PPE) will be kept.

The PPE shall be of good make and quality, wherever possible ISI certified, suitable for the hazard e.g. a dust respirator fitted with the correct filter to capture the particulate hazardous dust and maintained to recommended standards. As personal protective equipment only affords limited protection it will only be used as a last resort and as an interim arrangement until other steps are taken to reduce the risk of personal injury to an acceptable level.

Accident at Site

Identifying the hazards that come along with the presence of vehicles at the workplace (e.g. reversing operations, loading) can cause harm if not properly handled. Among some of the factors that may make vehicle accidents more likely are:

- Rough access roads

- Time pressure
- Inadequate brakes (Possibly from lack of maintenance)
- Carelessly parked vehicles (e.g. being parked on a slope without being adequately secured)
- Untrained drivers
- Overturning vehicles

To avoid such instances, it will be ensured that workers shall be trained and involved in the risk management process and tell them to share their experience regarding what to do, to reduce risk.

Transportation

The usual method of transporting minerals from the working face is by trucks /tippers/dumpers. Large earth moving equipment's are used for loading /transporting large quantity of mineral from a mine. During transportation of minerals in the mining area, utmost care will be taken by the vehicle operator to avoid any accident with any incoming vehicle by keeping sufficient gap between the two vehicles, keep safe distance from the edge of the mine face, avoid any accident to a worker crossing the haul road and shall maintain low speed. The vehicle operator shall not try to overtake another vehicle.

- Mine road shall be made smooth regularly with a road roller.
- Mine road will be cleaned daily to remove fallen rock/stones for smooth transportation.
- Mine road will be made sufficiently wide to keep two-way traffic.
- Mine roads will be designed as per the specifications given under MMR 1961.
- Regular water sprinkling will be done on mine road and haul road to avoid suspension of dust.
- All transportation within the mine lease area should be carried out directly under the supervision and control of management.
- The vehicles will be maintained in good working condition and checked thoroughly at least once a month by the competent person authorized for the purpose by the management.
- Navigation signs will be provided at each and every turning point up to the main road (wherever required).
- To avoid danger while reversing the vehicles especially at working place/loading points, stopper should be posted to properly guide reversing/spotting operating.
- Only trained drivers will be hired.

Organizational Structure:

Introduction

The Environmental Management Plan (EMP) Cell has been established to ensure environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. This project aims to minimize environmental harm, promote sustainable practices, ensure compliance with regulations, and foster community engagement and

transparency. The EMP Cell will provide a framework for identifying, assessing, and mitigating potential environmental impacts associated with the mining activities.

Environmental Policy

Our company is committed to:

- Minimizing environmental harm through responsible mining practices
- Promoting sustainable practices to conserve natural resources
- Ensuring compliance with regulatory requirements and industry standards
- Fostering community engagement and transparency through open communication

EMP Cell Objectives

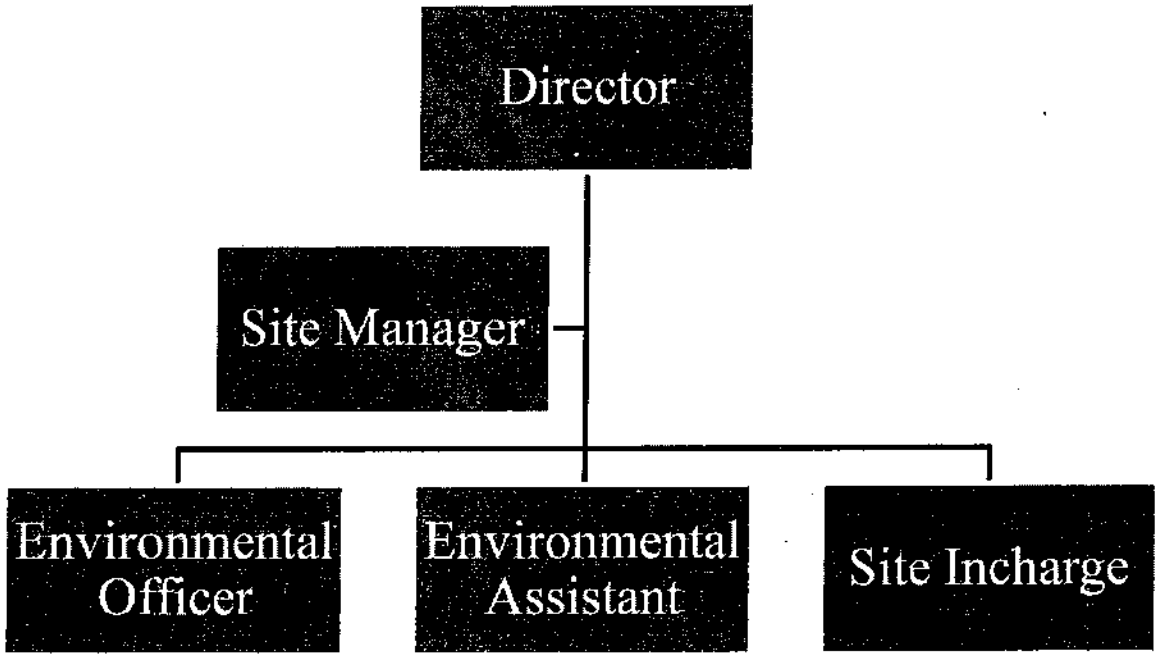
The EMP Cell objectives are:

- Minimize environmental impacts on air, water, soil, and biodiversity
- Ensure compliance with regulatory requirements and industry standards
- Promote sustainable practices through efficient resource utilization
- Enhance community engagement and transparency through regular updates

EMP Cell Structure

The EMP Cell consists of three members:

- Environmental Officer (EO) as Team Lead, responsible for overall strategy
- Environmental Assistant (EA) for Monitoring and Reporting, focusing on data collection
- Administrative Assistant (AA) for Documentation and Coordination, handling administrative tasks



EMP Cell structure

Roles and Responsibilities

Environmental Officer (EO)

- Develop, implement, and review EMP
- Conduct environmental impact assessments
- Monitor and report environmental performance
- Coordinate with regulatory authorities

- Provide environmental training
- Manage environmental data collection
- Develop environmental policies
- Conduct site inspections
- Identify and mitigate environmental hazards
- Prepare quarterly reports

Environmental Assistant (EA)

- Conduct field monitoring
- Collect and record environmental data
- Assist in data analysis and reporting
- Maintain monitoring equipment
- Conduct site inspections
- Assist in preparing quarterly reports
- Update environmental records
- Assist in implementing mitigation measures
- Participate in training programs
- Provide support to EO

Administrative Assistant (AA)

- Maintain environmental records
- Coordinate documentation
- Assist in preparing quarterly reports
- Manage environmental documentation
- Provide administrative support
- Coordinate training logistics
- Maintain communication with regulatory authorities
- Assist in updating policies
- Manage environmental budget
- Provide general administrative support

Director/Top Management Responsibilities

- Provide strategic direction
- Approve environmental policies
- Allocate resources
- Review quarterly reports
- Ensure compliance
- Foster environmental responsibility
- Support employee training
- Review environmental investments
- Ensure integration of environmental considerations

EMP Process Flow

The EMP process flow includes:

1. Environmental Monitoring
2. Data Analysis
3. Report Submission
4. Review and Revision
5. Implementation
6. Compliance Check

Key Decision Points

Key decision points include:

1. Non-compliance: Corrective action and Reporting
2. Environmental incidents: Investigation, Mitigation, and Reporting

Documentation

Documentation includes:

- EMP manual
- Monitoring records
- Reports
- Inspection records
- Training records

Implementation Timeline

The implementation timeline consists of:

1. Pre-Operational Phase (1 month): Establish EMP
2. Operational Phase (Ongoing): Implement EMP
3. Closure and Rehabilitation Phase (6 months): Restore mined land

Reporting

The EMP Cell will submit quarterly reports to:

- Company Director
- Regulatory authorities

Conclusion

The EMP Cell is committed to ensuring environmental sustainability and compliance with regulatory requirements for the Stone Mining Project. With a clear structure, roles, and responsibilities, the EMP Cell is equipped to manage environmental impacts and promote sustainable practices.

Undertaking submitted affirming:

a. Ground water will be used only for domestic purpose and not be used for any mining activities or any other use.
b. The District Survey Report has been prepared by a competent authority. Project Authorities will abide by any directives issued by any court of law in future.
c. If any changes are noticed in future regarding the contiguous / cluster area report issued by the mines department, then the applicable laws / rules will be binding on the Project Authorities and all necessary steps will be taken in this regard
d. The Boundary Pillars of the proposed mine lease area will be maintained properly.
e. One day post monsoon baseline data related to environment monitoring will be submitted with the first compliance report.
f. The plantation work will be completed within the first year of operation. Thereafter the same will be maintained up to the Conceptual stage of the Mine.
g. Sufficient water spray using water tankers will be done for effective dust suppression within the mine lease area and on haul roads.
h. All the mining machineries / equipment and transport vehicles should be maintained in good condition and annually tested for fitness and PUC and records to be maintained.
i. If any tree felling than necessary permission shall be taken from the competent authority.
j. Slope of the Water bodies to be stabilized using gabion plantation created at the end of life of the mine.
k. Suitable safety protection measures shall be taken around the water bodies to prevent any human or animals falling in to the water bodies created at the end of life of the mine.

I. Personal protective equipments such as clothing, helmet, goggles or other garments or equipments designed to protect from injury or infection will be provided to working personnel.

Based on the presentation made and information provided, the Committee in the light of Hon'ble NGT, Principal Bench, New Delhi order dated 13.09.18 and MoEF& CC O.M dated 12.12.18 decided that the proposal for Kanadih Stone Deposit of Shri Budhwa Munda, Village : Kanadih, Tehsil : Khunti, Distt. : Khunti, Jharkhand (1.01 Ha) is recommended for grant of EC. The various conditions for grant of EC is enclosed as Annexure – II along with following specific conditions :

I. In compliance of OM no. F.No. IA3-22/3/2024-IA.III (E-241594) dated 24.07.2024 of MoEF&CC, Govt. of India plantation of saplings shall be carried out in the earmarked green belt area as the part of tree plantation campaign *"Ek Ped Ma Ke Naam"* and the details of the same shall be uploaded in the MeriLiFE Portal (https://merilife.nic.in). 10% of the total green belt proposed shall be allocated under this clause.

II. The Deputy Commissioner through District Mining Officer will ensure that the mines owner of the respective leases to complete the plantation and maintenance in a time bound manner.

III. Suitable plant species of not less than 2 M height to be planted equal to twice the area of saplings proposed in Safety zone. This is to be planted in land available near mines and outside safety zone. This will be in addition to plantation in safety zone.Newly planted saplings to be maintained for minimum 3 years with Geo-Tagged photographs.

IV. Dedicated water tanker to be provided for mine. The tanker to be used for spraying water on haul road and for irrigating newly planted saplings only.Sprinkling to be done such that the haul road is kept moistened all the time with Geo-Tagged photographs.

V. Pre employment Occupational health check up for employees to be done and thereafter at annual interval for PLFT, Audiometry and other required tests . Summary findings of same to submitted along with 6 monthly compliance.

VI. Ensure use of Quality PPEs equivalent not less than 3M make. Records of same to be maintained and submitted with 6 monthly compliance report with Geo-Tagged photographs.

VII. Keep vulnerable areas unmanned. Ensure rotation of duties. Records to be maintained and submitted with 6 monthly compliance report.

VIII. Failing of any of terms & conditions mentioned in EC can lead to revocation / cancellation of EC.

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i. Joint Secretary, Deptt. of Forest, Environment & Climate Change, Govt. of Jharkhand letter no. 1460, dated 28.04.2025.

The Committee is of the view that the complainant should be called in the next meeting of the SEAC for deliberations on the points raised in the comlaint letter.

The Member Secretary, SEAC will write a letter to the complainant to be present in the next meeting of SEAC alongwith evidence of the points raised by him and also an affidavit in this regard.

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ii. Matter referred by SEIAA regarding inspection and monitoring of Remediation Plan and submit the report to SEIAA for release of Bank Guarantee submitted by Project Proponent to Jharkhand State Pollution Control Board (JSPCB).

a. Multistoried Residential Complex "Panchwati IVY" of M/s Panchwati Builders (A Unit of Panchwati Promoters Pvt. Ltd.), Village : Murramkala, Tehsil : Ramgarh, Dist. : Ramgarh, Jharkhand.

The Project Authorities have submitted evidence of having completed all the requirements of Remediation Plan and Community Resource Augmentation Plan as per EC letter no. EC/SEIAA/2022-23/2567/2022/256, dated 09.09.2022.

Accordingly, a joint site visit with officer from IRO, MoEF&CC, Govt. of India, Ranchi on a mutually convenient date. The Member Secretary, SEAC shall write a letter to IRO, MoEF&CC, Govt. of India, Ranchi in this regard.

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b. Green Residential Project "EASTATE ECO SYMPHONY" of M/s ESTATE BUILDCON PVT. LTD., Village : Gari, Tehsil : Sahar (Bargain), Dist : Ranchi, Jharkhand.

The Project Authorities have submitted evidence of having completed all the requirements of Remediation Plan and Community Resource Augmentation Plan as per EC letter no. EC/SEIAA/2021-22/2515/2021/216, dated 06.08.2022.

Accordingly, a joint site visit with officer from IRO, MoEF&CC, Govt. of India, Ranchi on a mutually convenient date. The Member Secretary, SEAC shall write a letter to IRO, MoEF&CC, Govt. of India, Ranchi in this regard.

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The meeting concluded with thanks to all present.

Ashok Kumar Dubey, IFS (Retd.)
Member

Dr. Ajay Govind Bhatt
Member

Niranjan Lal Agarwalla
Member

Dr. Raju Kumar
Member

Srikant Verma, IFS
Member Secretary

Ashok Kumar Singh, IFS (Retd.)
Chairman

I. Statutory Compliance

i. The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.

ii. The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of fire fighting equipment etc as per National Building Code including protection measures from lightening etc.

iii. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

iv. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

v. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

vi. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee.

vii. The project proponent shall obtain the necessary permission for drawl of ground water / surface water required for the project from the competent authority.

viii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.

ix. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable, by project proponents from the respective competent authorities.

x. The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.

xi. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.

xii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel (kerosene/gas) for cooking,

safe drinking water, medical health care, etc. The housing may be in the form of temporary structures to be removed after completion of the project.

xiii. Provision of drinking water, waste water disposal, solid wastes management and primary health facilities shall be ensured for labour force. Proper sanitation facilities shall be provided at the construction site to prevent health related problems. Domestic as well as sanitary wastes from construction camps shall be cleared regularly.

xiv. All the labourers to be engaged for construction works shall be screened for health and adequately treated before issue of work permits. The contractor shall ensure periodic health check-up of construction workers.

xv. All vehicles/equipment deployed during construction phase shall be ensured in good working condition and shall conform to applicable air and noise emission standards. These shall be operated only during non-peaking hours.

xvi. Accumulation/stagnation of water shall be avoided ensuring vector control.

xvii. Water during construction phase should be preferred from Municipal supply.

xviii. Unskilled construction labourers shall be recruited from the local areas.

xix. Monitoring of ground water table and quality once in three months shall be carried out. Construction of tube wells, bore wells shall be strictly regulated.

xx. Adequate provision shall be made to cater the parking needs. Parking spaces standards as given in "Manual on Norms and Standards for Environmental Clearance of Large Construction Projects" issued by Ministry of Environment and Forests, Government of India shall be adopted.

xxi. Rest room facilities shall be provided for service population.

xxii. Water body falling within premises (if any) shall not be lined or no embankment shall be cemented. The water bodies, if any, shall be kept in natural conditions without disturbing the ecological habitat.

xxiii. Construction shall conform to the requirements of local seismic regulations. The project proponent shall obtain permission for the plans and designs including structural design, standards and specifications of all construction work from concerned authority.

II. Air quality monitoring and preservation

i. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.

ii. A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site.

iii. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants

released (e.g. PM10 and PM25) covering upwind and downwind directions during the construction period.

iv. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.

v. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site.

vi. Sand, murram, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution.

vii. Wet jet shall be provided for grinding and stone cutting.

viii. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.

ix. All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules 2016.

x. The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.

xi. The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.

xii. For indoor air quality the ventilation provisions as per National Building Code of India.

III. Water quality monitoring and preservation

i. The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water.

ii. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.

iii. Total fresh water use shall not exceed the proposed requirement as provided in the project details.

iv. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

v. A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed, the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

vi. At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.

vii. Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.

viii. Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.

ix. Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.

x. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.

xi. The local bye-law provisions on rain water harvesting should be followed. If local byelaw provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model Building Byelaws, 2016. Rain water harvesting recharge pits/storage tanks shall be provided for ground water recharging as per the CGWB norms.

xii. A rain water harvesting plan needs to be designed where the recharge bores of minimum one recharge bore per 5,000 square meters of built up area and storage capacity of minimum one day of total fresh water requirement shall be provided. In areas where ground water recharge is not feasible, the rain water should be harvested and stored for reuse. The ground water shall not be withdrawn without approval from the Competent Authority.

xiii. All recharge should be limited to shallow aquifer.

xiv. No ground water shall be used during construction phase of the project.

xv. Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.

xvi. The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

xvii. Sewage shall be treated in the STP with tertiary treatment. The treated effluent from STP shall be recycled/re-used for flushing, AC make up water and gardening. As proposed, no treated water shall be disposed in to municipal drain.

xviii. No sewage or untreated effluent water would be discharged through storm water drains.

xix. Onsite sewage treatment of capacity of treating 100% waste water to be installed based on the MBBR/MBR/SBR technology. The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Treated waste water shall be reused on site for landscape, flushing, cooling tower, and other end-uses. Excess treated water shall be discharged as per statutory norms notified by Ministry of Environment, Forest and Climate Change. Natural treatment systems shall be promoted.

xx. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.

xxi. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.

IV. Noise monitoring and prevention

i. Ambient noise levels shall conform to residential area/commercial area/industrial area/silence zone both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

ii. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.

V. Energy Conservation measures

i. Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC.

ii. Outdoor and common area lighting shall be LED.

iii. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.

iv. Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning.

v. Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.

vi. Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.

VI. Waste Management

i. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained.

ii. Disposal of muck during construction phase shall not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.

iii. Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials.

iv. Organic waste compost/ Vermiculture pit/ Organic Waste Converter within the premises with a minimum capacity of 0.3 kg /person/day must be installed.

v. All non-biodegradable waste shall be handed over to authorized recyclers for which a written tie up must be done with the authorized recyclers.

vi. Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.

vii. Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials.

viii. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 20L.6.,Ready mixed concrete must be used in building construction.

ix. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Rules, 2016.

x. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

VII. Green Cover

i. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concerned regulatory authority. Old trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Plantations to be ensured species (cut) to species (planted).

ii. A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. The landscape planning should include plantation of native species. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive species should not be used for landscaping.

iii. Where the trees need to be cut with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). Area for green belt development shall be provided as per the details provided in the project document.

iv. Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

VIII. Transport

i. A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
   a. Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
   b. Traffic calming measures.
   c. Proper design of entry and exit points.
   d. Parking norms as per local regulation

ii. Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards be operated only during non-peak hours.

iii. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

IX. Human Health Issues

i. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.

ii. For indoor air quality the ventilation provisions as per National Building Code of India.

iii. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

iv. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

v. Occupational health surveillance of the workers shall be done on a regular basis.

vi. A First Aid Room shall be provided in the project both during construction and operations of the project.

X. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.

XI. Miscellaneous

i. The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

v. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as

prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

vii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

viii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

ix. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

x. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xi. The Ministry / SEIAA / SEAC may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xii. The Ministry / SEIAA / SEAC reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiii. It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEF & CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.), Ranchi / CPCB / SEIAA.

xiv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xv. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

xvi. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

I. Statutory compliance

i. This Environmental Clearance (EC) is subject to orders/ judgment of Hon'ble Supreme Court of India, Hon'ble High Court, Hon'ble NGT and any other Court of Law, Common Cause Conditions as may be applicable.

ii. In the writ petition (Civil) no. 202/1995, T.N. GodavermanThirumulpadvs union of India and ors. theHon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

iii. The Project proponent complies with all the statutory requirements and judgement of Hon'ble Supreme Court dated 2nd August,2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors before commencing the mining operations.

iv. The Hon'ble Supreme Court vide order dated 08.01.2020 in W.P. (Civil) No.114/2014 in the matter of Common Cause vs. Union of India has directed that the area which has been mined should be restored so that grass and other vegetation including trees can grow in the mining area for the benefit of animals.

> *"The mining lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.*

v. The State Government concerned shall ensure that mining operation shall not be commenced till the entire compensation levied, if any, for illegal mining paid by the Project Proponent through their respective Department of Mining & Geology in strict compliance of Judgement of Hon'ble Supreme Court dated 2nd August, 2017 in Writ Petition (Civil) No. 114 of 2014 in matter of Common Cause versus Union of India &Ors.

vi. This Environmental Clearance shall become operational only after receiving formal NBWL Clearance from MoEF&CC subsequent to the recommendations of the Standing Committee of National Board for Wildlife, if applicable to the Project.

vii. This Environmental Clearance shall become operational only after receiving formal Forest Clearance (FC) under the provision of Forest Conservation Act, 1980, if applicable to the Project.

viii. Project Proponent (PP) shall obtain Consent to Operate after grant of EC and effectively implement all the conditions stipulated therein. The mining activity shall not commence prior to obtaining Consent to Establish / Consent to Operate from the concerned State Pollution Control Board/Committee.

ix. The PP shall adhere to the provision of the Mines Act, 1952, Mines and Mineral (Development & Regulation), Act, 2015 and rules & regulations made there under. PP shall adhere to various circulars issued by Directorate General Mines Safety (DGMS) and Indian Bureau of Mines from time to time.

x. The Project Proponent shall obtain consents from all the concerned land owners, before start of mining operations, as per the provisions of MMDR Act, 1957 and rules made there under in respect of lands which are not owned by it.

xi. The Project Proponent shall follow the mitigation measures provided in MoEF&CC's Office Memorandum No. Z-11013/57/2014-IAJI (M), dated 29th October, 2014, titled "Impact of mining activities on Habitations-Issues related to the mining Projects wherein Habitations and villages are the part of mine lease areas or Habitations and villages are surrounded by the mine lease area".

xii. The Project Proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of surface water and from CGWA for withdrawal of ground water for the project.

xiii. A copy of EC letter will be marked to concerned Panchayat / local NGO etc. if any, from whom suggestion / representation has been received while processing the proposal.

xiv. State Pollution Control Board/Committee shall be responsible for display of this EC letter at its Regional office, District Industries Centre and Collector's office/ Tehsildar's Office for 30 days.

xv. The Project Authorities should widely advertise about the grant of this EC letter by printing the same in at least two local newspapers, one of which shall be in vernacular language of the concerned area. The advertisement shall be done within 7 days of the issue of the clearance letter mentioning that the instant project has been accorded EC and copy of the EC letter is available with the State Pollution Control Board/Committee and web site of the Ministry of Environment, Forest and Climate Change (www. Environment clearance.nic.in). A copy of the advertisement may be forwarded to the concerned MoEF& CC Regional Office for compliance and record.

xvi. The Project Proponent shall inform the MoEF&CC for any change in ownership of the mining lease. In case there is any change in ownership or mining lease is transferred than mining operation shall only be carried out after transfer of EC as per provisions of the para 11 of EIA Notification, 2006 as amended from time to time.

II. Air quality monitoring and preservation

i. The Project Proponent shall install a minimum of 3 (three) online Ambient Air Quality Monitoring Stations with 1 (one) in upwind and 2 (two) in downwind direction based on long term climatological data about wind direction such that an angle of 120° is made between the monitoring locations to monitor critical

parameters, relevant for mining operations, of air pollution viz. PM10, PM2.5, NO2; CO and SO2 etc. as per the methodology mentioned in NAAQS Notification No. B-29016/20/90/PCUI, dated 18.11.2009 covering the aspects of transportation and use of heavy machinery in the impact zone. The ambient air quality shall also be monitored at prominent places like office building, canteen etc. as per the site condition to ascertain the exposure characteristics at specific places. The above data shall be digitally displayed within 03 months in front of the main Gate of the mine site.

ii. Effective safeguard measures for prevention of dust generation and subsequent suppression (like regular water sprinkling, metalled road construction etc.) shall be carried out in areas prone to air pollution wherein high levels of PM10 and PM2.5 are evident such as haul road, loading and unloading point and transfer points. The Fugitive dust emissions from all sources shall be regularly controlled by installation of required equipments/ machineries and preventive maintenance: Use of suitable water-soluble chemical dust suppressing agents may be explored for better effectiveness of dust control system. It shall be ensured that air pollution level conform to the standards prescribed by the MoEF&CC/ Central Pollution Control Board.

III. Water quality monitoring and preservation

i. In case, immediate mining scheme envisages intersection of ground water table, then Environmental Clearance shall become operational only after receiving formal clearance from CGWA. In case, mining operation involves intersection of ground water table at a later stage, then PP shall ensure that prior approval from CGWA and MoEF&CC is in place before such mining operations. The permission for intersection of ground water table shall essentially be based on detailed hydro-geological study of the area.

ii. Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintain. The natural water bodies and or streams which are flowing in an around the village, should not be disturbed. The Water Table should be nurtured so as not to go down below the pre-mining period. In case of any water scarcity in the area, the Project Proponent has to provide water to the villagers for their use. A provision for regular monitoring of water table in open dug wall located in village should be incorporated to ascertain the impact of mining over ground water table. The Report on changes in Ground water level and quality shall be submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

iii. Project Proponent shall regularly monitor and maintain records w.r.t. ground water level and quality in and around the mine lease by establishing a network of existing wells as well as new piezo-meter installations during the mining operation in consultation with Central Ground Water Authority/ State Ground Water Department. The Report on changes in Ground water level and quality shall be

submitted on six-monthly basis to the Regional Office of the Ministry, CGWA and State Groundwater Department / State Pollution Control Board.

iv. The Project Proponent shall undertake regular monitoring of natural water course/ water resources/ springs and perennial nallahs existing/ flowing in and around the mine lease and maintain its records. The project proponent shall undertake regular monitoring of water quality upstream and downstream of water bodies passing within and nearby/ adjacent to the mine lease and maintain its records. Sufficient number of gullies shall be provided at appropriate places within the lease for management of water. PP shall carryout regular monitoring w.r.t. pH and included the same in monitoring plan. The parameters to be monitored shall include their water quality vis-à-vis suitability for usage as per CPCB criteria and flow rate. It shall be ensured that no obstruction and/ or alteration be made to water bodies during mining operations without justification and prior approval of MoEF&CC. The monitoring of water courses/ bodies existing in lease area shall be carried out four times in a year viz. pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the record of monitored data may be sent regularly to Ministry of Environment, Forest and Climate Change and its Regional Office, Central Ground Water Authority and Regional Director, Central Ground Water Board, State Pollution Control Board and Central Pollution Control Board. Clearly showing the trend analysis on six-monthly basis.

v. Quality of polluted water generated from mining operations which include Chemical Oxygen Demand (COD) in mines run-off; acid mine drainage and metal contamination in runoff shall be monitored along with Total Suspended Solids (TDS), Dissolved Oxygen (DO), pH and Total Suspended Solids (TSS). The monitored data shall be uploaded on the website of the company as well as displayed at the project site in public domain, on a display board, at a suitable location near the main gate of the Company. The circular No. J- 20012/1/2006-IAJI (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change may also be referred in this regard.

vi. Project Proponent shall plan, develop and implement rainwater harvesting measures on long term basis to augment ground water resources in the area consultation with Central Ground Water Board/ State Groundwater Department. A report on amount of water recharged needs to be submitted to Regional Office MoEF&CC annually.

vii. Industrial waste water (workshop and waste water from the mine) should be properly collected and treated so as to conform to the notified standards prescribed from time to time. The standards shall be prescribed through Consent to Operate (CTO) issued by concerned State Pollution Control Board (SPCB). The workshop effluent shall be treated after its initial passage through Oil and grease trap.

viii. The water balance/water auditing shall be carried out and measure for reducing the consumption of water shall be taken up and reported to the Regional Office of the MoEF&CC and State Pollution Control Board/Committee.

IV. Noise and vibration monitoring and prevention

i. The peak particle velocity at 500m distance or within the nearest habitation, whichever is closer shall be monitored periodically as per applicable DGMS guidelines.

ii. The illumination and sound at night at project sites disturb the villages in respect of both human and animal population. Consequent sleeping disorders and stress may affect the health in the villages located close to mining operations. Habitations have a right for darkness and minimal noise levels at night. PPs must ensure that the biological clock of the villages is not disturbed; by orienting the floodlights/ masks away from the villagers and keeping the noise levels well within the prescribed limits for day /night hours.

iii. The Project Proponent shall take measures for control of noise levels below 85 dBA in the work environment. The workers engaged in operations of HEMM, etc. should be provided with ear plugs /muffs. All personnel including laborers working in dusty areas shall be provided with protective respiratory devices along with adequate training, awareness and information on safety and health aspects. The PPshall be held responsible in case it has been found that workers/ personals/ laborers are working without personal protective equipment.

V. Mining Plan

i. The Project Proponent shall adhere to the working parameters of mining plan which was submitted at the time of EC appraisal wherein year-wise plan was mentioned for total excavation i.e. quantum of mineral, waste, over burden, inter burden and top soil etc.. No change in basic mining proposal like mining technology, total excavation, mineral & waste production, lease area and scope of working (viz. method of mining, overburden & dump management, O.B & dump mining, mineral transportation mode, ultimate depth of mining etc.) shall not be carried out without prior approval of the Ministry of Environment, Forest and Climate Change, which entail adverse environmental impacts, even if it is a part of approved mining plan modified after grant of EC or granted by State Govt. in the form to Short Term Permit (STP), Query license or any other name.

ii. The Project Proponent shall get the Final Mine Closure Plan along with Financial Assurance approved from Indian Bureau of Mines/Department of Mining & Geology as required under the Provision of the MMDR Act, 1957 and Rules/ Guidelines made there under. A copy of approved final mine closure plan shall be submitted within 2 months of the approval of the same from the competent authority to the concerned Regional Office of the Ministry of Environment, Forest and Climate Change for record and verification.

iii. The land-use of the mine lease area at various stages of mining scheme as well as at the end-of-life shall be governed as per the approved Mining Plan. The excavation vis-à-vis backfilling in the mine lease area and corresponding afforestation to be raised in the reclaimed area shall be governed as per approved mining plan. PP shall ensure the monitoring and management of rehabilitated areas until the vegetation becomes self sustaining. The compliance status shall be submitted half-yearly to the MoEF&CC and its concerned Regional Office.

VI. Land reclamation

i. The Overburden (O.B.) generated during the mining operations shall be stacked at earmarked OB dump site(s) only and it should not be kept active for a long period of time. The physical parameters of the OB dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by D.G.M.S w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of top soil/OB dumps. The topsoil shall be used for land reclamation and plantation.

ii. The reject/waste generated during the mining operations shall be stacked at earmarked waste dump site(s) only. The physical parameters of the waste dumps like height, width and angle of slope shall be governed as per the approved Mining Plan as per the guidelines/circulars issued by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of waste dumps.

iii. The reclamation of waste dump sites shall be done in scientific manner as per the Approved Mining Plan cum Progressive Mine Closure Plan.

iv. The slope of dumps shall be vegetated in scientific manner with suitable native species to maintain the slope stability, prevent erosion and surface run off. The selection of local species regulates local climatic parameters and help in adaptation of plant species to the microclimate. The gullies formed on slopes should be adequately taken care of as it impacts the overall stability of dumps. The dump mass should be consolidated with the help of dozer/ compactors thereby ensuring proper filling/ leveling of dump mass. In critical areas, use of geo textiles/ geo-membranes / clay liners / Bentonite etc. shall be undertaken for stabilization of the dump.

v. The Project Proponent shall carry out slope stability study in case the dump height is more than 30 meters. The slope stability report shall be submitted to concerned regional office of MoEF&CC.

vi. Catch drains, settling tanks and ponds of appropriate size shall be constructed around the mine working, mineral yards and Top Soil/OB/Waste dumps to prevent run off of water and flow of sediments directly into the water bodies (Nallah/ River/ Pond etc.). The collected water should be utilized for watering the mine area, roads, green belt development, plantation etc. The drains/ sedimentation sumps etc. shall be de-silted regularly, particularly after monsoon season, and maintained properly.

vii. Check dams of appropriate size, gradient and length shall be constructed around mine pit and OB dumps to prevent storm run-off and sediment flow into adjoining water bodies. A safety margin of 50% shall be kept for designing of sump structures over and above peak rainfall (based on 50 years data) and maximum discharge in the mine and its adjoining area which shall also help in providing adequate retention time period thereby allowing proper settling of sediments/ silt material. The sedimentation pits/ sumps shall be constructed at the corners of the garland drains.

viii. The top soil, if any, shall temporarily be stored at earmarked site(s) within the mine lease only and should not be kept unutilized for long. The physical parameters of the top soil dumps like height, width and angle of slope shall be governed as per the approved Mining Plan and as per the guidelines framed by DGMS w.r.t. safety in mining operations shall be strictly adhered to maintain the stability of dumps. The topsoil shall be used for land reclamation and plantation purpose.

VII. Transportation

i. No Transportation of the minerals shall be allowed in case of roads passing through villages/ habitations. In such cases, PP shall construct a 'bypass' road for the purpose of transportation of the minerals leaving an adequate gap (say at least 200 meters) so that the adverse impact of sound and dust along with chances of accidents could be mitigated. All costs resulting from widening and strengthening of existing public road network shall be borne by the PP in consultation with nodal State Govt. Department. Transportation of minerals through road movement in case of existing village/ rural roads shall be allowed in consultation with nodal State Govt. Department only after required strengthening such that the carrying capacity of roads is increased to handle the traffic load. The pollution due to transportation load on the environment will be effectively controlled and water sprinkling will also be done regularly. Vehicular emissions shall be kept under control and regularly monitored. Project should obtain Pollution Under Control (PUC) certificate for all the vehicles from authorized pollution testing centers.

ii. The Main haulage road within the mine lease should be provided with a permanent water sprinkling arrangement for dust suppression. Other roads within the mine lease should be wetted regularly with tanker-mounted water sprinkling system. The other areas of dust generation like crushing zone, material transfer points, material yards etc. should invariably be provided with dust suppression arrangements. The air pollution control equipments like bag filters, vacuum suction hoods, dry fogging system etc. shall be installed at Crushers, belt-conveyors and other areas prone to air pollution. The belt conveyor should be fully covered to avoid generation of dust while transportation. PP shall take necessary measures to avoid generation of fugitive dust emissions.

VIII. Green Belt

i. The Project Proponent shall develop greenbelt in 7.5m wide safety zone all along the mine lease boundary as per the guidelines of CPCB in order to arrest pollution emanating from mining operations within the lease. The whole Green belt shall be developed within first 5 years starting from windward side of the active mining area. The development of greenbelt shall be governed as per the EC granted by the Ministry irrespective of the stipulation made in approved mine plan.

ii. The Project Proponent shall carryout plantation/ afforestation in backfilled and reclaimed area of mining lease, around water body, along the roadsides, in community areas etc. by planting the native species in consultation with the State Forest Department/ Agriculture Department/ Rural development department/ Tribal Welfare Department/ Gram Panchayat such that only those species be selected which are of use to the local people. The CPCB guidelines in this respect shall also be adhered. The density of the trees should be around 2500 saplings per Hectare. Adequate budgetary provision shall be made for protection and care of trees.

iii. The Project Proponent shall make necessary alternative arrangements for livestock feed by developing grazing land with a view to compensate those areas which are coming within the mine lease. The development of such grazing land shall be done in consultation with the State Government. In this regard, Project Proponent should essentially implement the directions of the Hon'ble Supreme Court with regard to acquisition of grazing land. The sparse trees on such grazing ground, which provide mid-day shelter from the scorching sun, should be scrupulously guarded/ protected against felling and plantation of such trees should be promoted.

iv. The Project Proponent shall undertake all precautionary measures for conservation and protection of endangered flora and fauna and Schedule-I species during mining operation. A Wildlife Conservation Plan shall be prepared for the same clearly delineating action to be taken for conservation of flora and fauna. The Plan shall be approved by Chief Wild Life Warden of the State Govt.

v. And implemented in consultation with the State Forest and Wildlife Department. A copy of Wildlife Conservation Plan and its implementation status (annual) shall be submitted to the Regional Office of the Ministry.

IX. Public hearing and human health issues

i. The Project Proponent shall appoint an Occupational Health Specialist for Regular as well as Periodical medical examination of the workers engaged in the mining activities, as per the DGMS guidelines. The records shall be maintained properly. PP shall also carryout Occupational health check-ups in respect of workers which are having ailments like BP, diabetes, habitual smoking, etc. The check-ups shall be undertaken once in six months and necessary remedial/ preventive measures

be taken. A status report on the same may be sent to MoEF&CC Regional Office and DGMS on half-yearly basis.

ii. The Project Proponent must demonstrate commitment to work towards 'Zero Harm' from their mining activities and carry out Health Risk Assessment (HRA) for identification workplace hazards and assess their potential risks to health and determine appropriate control measures to protect the health and wellbeing of workers and nearby community. The proponent shall maintain accurate and systematic records of the HRA. The HRA for neighborhood has to focus on Public Health Problems like Malaria, Tuberculosis, HIV, Anaemia, Diarrhoea in children under five, respiratory infections due to bio mass cooking. The proponent shall also create awareness and educate the nearby community and workers for Sanitation, Personal Hygiene, Hand washing, not to defecate in open, Women Health and Hygiene (Providing Sanitary Napkins), hazard of tobacco and alcohol use. The Proponent shall carryout base line HRA for all the category of workers and thereafter every five years.

iii. The Proponent shall carry out Occupational health surveillance which be a part of HRA and include Biological Monitoring where practical and feasible, and the tests and investigations relevant to the exposure (e.g. for Dust a X-Ray chest; For Noise Audiometric; for Lead Exposure Blood Lead, For Welders Full Ophthalmologic Assessment; for Manganese Miners a complete Neurological Assessment by a Certified Neurologist, and Manganese (Mn) Estimation in Blood; For Inorganic Chromium- Fortnightly skin inspection of hands and forearms by a responsible person. Except routine tests all tests would be carried out in a Lab accredited by NABH. Records of Health Surveillance must be kept for 30 years, including the results of and the records of Physical examination and tests. The record of exposure due to materials like Asbestos, Hard Rock Mining, Silica, Gold, Kaolin, Aluminium, Iron, Manganese, Chromium, Lead, Uranium need to be handed over to the Mining Department of the State in case the life of the mine is less than 30 years. It would be obligatory for the State Mines Departments to make arrangements for the safe and secure storage of the records including X-Ray. Only conventional X-Ray will be accepted for record purposes and not the digital one). X-Ray must meet ILO criteria (17 x14 inches and of good quality).

iv. The Proponent shall maintained a record of performance indicators for workers which includes (a) there should not be a significant decline in their Body Mass Index and it should stay between 18.5 -24.9, (b) the Final Chest X-Ray compared with the base line X-Ray should not show any capacities ,(c) At the end of their leaving job there should be no Diminution in their Lung Functions Forced Expiratory Volume in one second (FEV1),Forced Vital Capacity (FVC), and the ratio) unless they are smokers which has to be adjusted, and the effect of age, (d) their hearing should not be affected. As a proof an Audiogram (first and last need to be presented), (e) they should not have developed any Persistent Back Pain, Neck Pain, and the movement of their Hip, Knee and other joints should have normal range of movement, (f) they should not have suffered loss of any body part. The

record of the same should be submitted to the Regional Office, MoEF&CC annually along with details of the relief and compensation paid to workers having above indications.

v. The Project Proponent shall ensure that Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects.

vi. Project Proponent shall make provision for the housing for workers/labors or shall construct labor camps within/outside (company owned land) with necessary basic infrastructure/ facilities like fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche for kids etc. The housing may be provided in the form of temporary structures which can be removed after the completion of the project related infrastructure. The domestic waste water should be treated with STP in order to avoid contamination of underground water.

vii. The activities proposed in Action plan prepared for addressing the issues raised during the Public Hearing shall be completed as per the budgetary provisions mentioned in the Action Plan and within the stipulated time frame. The Status Report on implementation of Action Plan shall be submitted to the concerned Regional Office of the Ministry along with District Administration.

X. Corporate Environment Responsibility (CER)

i. The activities and budget earmarked for Corporate Environmental Responsibility (CER) as per Ministry's O.M No 22-65/2017-IA. II (M) dated 01.05.2018 or as proposed by EAC should be kept in a separate bank account. The activities proposed for CER shall be implemented in a time bound manner and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement.

ii. Project Proponent shall keep the funds earmarked for environmental protection measures in a separate account and refrain from diverting the same for other purposes. The Year wise expenditure of such funds should be reported to the MoEF&CC and its concerned Regional Office.

XI. Miscellaneous

i. The Project Proponent shall prepare digital map (land use & land cover) of the entire lease area once in five years purpose of monitoring land use pattern and submit a report to concerned Regional Office of the MoEF&CC.

ii. The Project Authorities should inform to the Regional Office regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

iii. It shall be mandatory for the project management to submit six (06) monthly compliance report in respect of the stipulated prior environmental clearance

terms and conditions in hard copies and soft copies to the regulatory authority concerned Regional Office of MoEF& CC at Ranchi and Jharkhand State Pollution Control Board (J.S.P.C.B.), Ranchi / CPCB / SEIAA.

iv. A separate 'Environmental Management Cell' with suitable qualified manpower should be set-up under the control of a Senior Executive. The Senior Executive shall directly report to Head of the Organization. Adequate number of qualified Environmental Scientists and Mining Engineers shall be appointed and submit a report to RO, MoEF&CC.

v. The concerned Regional Office of the MoEF&CC shall randomly monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the MoEF&CC officer(s) by furnishing the requisite data / information / monitoring reports.

vi. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

vii. The Ministry / SEIAA / SEAC may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

viii. The Ministry / SEIAA / SEAC reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

ix. The Environmental Clearance accorded shall be valid for the period of lease of the mine. The PP shall not increase production rate and alter lease area during the validity of Environmental Clearance

x. Any appeal against this Environmental Clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under section 16 of the National Green Tribunal Act, 2010.

Annexure – III

I. Statutory compliance:

i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.

ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.

iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report. (incase of the presence of schedule-I species in the study area)

iv. In the writ petition (Civil) no. 202/1995, T.N. Godaverman Thirumulpad vs union of India and ors. the Hon'ble Supreme Court passed an order dated 03.06.2022 " National Park or Wildlife Sanctuary must have an ESZ of minimum 01 km in which the activities prescribed and prescribed in the guidelines of 09th February, 2011 shall be strictly adhered to ".

v. The project proponent shall obtain Consent to Establish / Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State pollution Control Board/ Committee.

vi. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.

vii. The project proponent shall obtain authorization under the Hazardous and other Waste Management Rules, 2016 as amended from time to time.

II. Air quality monitoring and preservation

i. The project proponent shall install 24x7 continuous emission monitoring system at process stacks to monitor stack emission with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 2012 (applicable to IF/EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015(Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognized under Environment (Protection) Act, 1986 or NABL accredited laboratories.

ii. The project proponent shall monitor fugitive emissions in the plant premises at least once in every quarter through laboratories recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories.

iii. The project proponent shall install system carryout Continuous Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PMlO and PM25 in reference to PM emission, and S02 and NOx in reference to S02 and NOx emissions) within and outside the plant area (at least at four locations one within and three outside the plant area at an angle of 120° each), covering upwind and downwind directions. (case to case basis small plants: Manual; Large plants: Continuous)

iv. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality / fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.

v. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources.

vi. The project proponent shall provide leakage detection and mechanised bag cleaning facilities for better maintenance of bags.

vii. Sufficient number of mobile or stationery vacuum cleaners shall be provided to clean plant roads, shop floors, roofs, regularly.

viii. Recycle and reuse iron ore fines, coal and coke fines, lime fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after *briquettingl* agglomeration.

ix. The project proponent shall use leak proof trucks/dumpers carrying coal and other raw materials and cover them with tarpaulin.

x. The project proponent shall provide covered sheds for raw materials like scrap and sponge iron, lump ore, coke, coal, etc.

xi. The project proponent shall provide primary and secondary fume extraction system at all melting furnaces.

xii. Design the ventilation system for adequate air changes as per ACGIH document for all tunnels, motor houses, Oil Cellars.

III. Water quality monitoring and preservation

i. The project proponent shall install 24x7 continuous effluent monitoring system with respect to standards prescribed in Environment (Protection) Rules 1986 vide G.S.R 277 (E) dated 31st March 20 12 (applicable to IF / EAF) as amended from time to time; S.O. 3305 (E) dated 7th December 2015 (Thermal Power Plants) as amended from time to time) and connected to SPCB and CPCB online servers and calibrate these system from time to time according to equipment supplier specification through labs recognised under Environment (Protection) Act, 1986 or NABL accredited laboratories. (case to case basis small plants: Manual; Large plants: Continuous)

ii. The project proponent shall monitor regularly ground water quality at least twice a year (pre and post monsoon) at sufficient numbers of piezometers/ sampling wells in the plant and adjacent areas through labs recognised under Environment (Protection) Act, 1986 and NABL accredited laboratories.

iii. The project proponent shall submit monthly summary report of continuous effluent monitoring and results of manual effluent testing and manual monitoring of ground water quality to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.

iv. Adhere to 'Zero Liquid Discharge'.

v. Sewage Treatment Plant shall be provided for treatment of domestic wastewater to meet the prescribed standards.

vi. The project proponent shall provide the ETP for effluents of rolling mills to meet the standards prescribed in G.S.R 277 (E) 31st March 2012 (applicable to IF/EAF) as amended from time to time.

vii. Garland drains and collection pits shall be provided for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off

viii. The project proponent shall practice rainwater harvesting to maximum possible extent.

ix. The project proponent shall make efforts to minimise water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.

IV. Noise monitoring and prevention

i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.

ii. The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB (A) during day time and 70 dB(A) during night time.

V. Energy Conservation measures

i. The project proponent shall provide waste heat recovery system (pre-heating of combustion air) at the flue gases of reheating furnaces.

ii. Practice hot charging of slabs and billets/blooms as far as possible.

iii. Ensure installation of regenerative type burners on all reheating furnaces.

iv. Provide solar power generation on rooftops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly.

v. Provide the project proponent for LED lights in their offices and residential areas.

VI. Waste management

i. Used refractories shall be recycled as far as possible.

ii. Oily scum and metallic sludge recovered from rolling mills ETP shall be mixed, dried, and briquetted and reused melting Furnaces

iii. 100% utilization of fly ash shall be ensured. All the fly ash shall be provided to cement and brick manufacturers for further utilization and Memorandum of Understanding in this regard shall be submitted to the Ministry's Regional Office.

iv. The waste oil, grease and other hazardous waste shall be disposed of as per the

v. Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.

vi. Kitchen waste shall be composted or converted to biogas for further use.(to be decided on case to case basis depending on type and size of plant)

VII. Green Belt

i. Green belt shall be developed in an area equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant

ii. The project proponent shall prepare GHG emissions inventory for the plant and shall submit the programme for reduction of the same including carbon sequestration including plantation.

VIII. Public hearing and Human health issues

i. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.

ii. The project proponent shall carry out heat stress analysis for the workmen who work in high temperature work zone and provide Personal Protection Equipment (PPE) as per the norms of Factory Act.

iii. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.

IX. Corporate Environment Responsibility

i. The project proponent shall comply with the provisions contained in this Ministry's OM vide F.No. 22-65/2017-IA.III dated 1st May 2018, as applicable, regarding Corporate Environment Responsibility.

ii. The company shall have a well laid down environmental policy duly approve by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental/forest / wildlife norms / conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.

iii. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly to the head of the organization.

iv. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry / Regional Office along with the Six Monthly Compliance Report.

v. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.

vi. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the plants shall be implemented.

vii. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.

X. Miscellaneous

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.

ii. The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.

iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.

iv. The project proponent shall monitor the criteria pollutants level namely; PMIO, S02, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company.

v. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.

vi. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.

vii. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.

viii. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

ix. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.

x. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).

xi. Concealing factual data or submission of false / fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.

xii. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.

xiii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.

xiv. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.

xv. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

xvi. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

C. <u>Other Conditions:</u>

i. The Authority reserves the right to add any new condition or modify the above conditions or to revoke the clearance if conditions stipulated above are not implemented to the satisfaction of Authority or for that matter for any other Administrative reason.

ii. The Prescribed EC is valid as per Notification no. S.O. 1807(E) dated 12.04.2022 of MoEF&CC, Govt. of India.

iii. In case of any deviation or alteration in the project proposed from those submitted to SEIAA, Jharkhand for clearance, a fresh reference should be made to SEIAA to assess the adequacy of the conditions imposed and to incorporate any new conditions if required.

The TORs prescribed for undertaking detailed EIA study are as follows:

i. Year-wise production details since 1994 should be given, clearly stating the highest production achieved in any one year prior to 1994. It may also be categorically informed whether there had been any increase in production after the EIA Notification 1994 came into force, w.r.t. the highest production achieved prior to 1994.

ii. A copy of the document in support of the fact that the Proponent is the rightful lessee of the mine should be given.

iii. All documents including approved mine plan, EIA and Public Hearing should be compatible with one another in terms of the mine lease area, production levels, waste generation and its management, mining technology etc. and should be in the name of the lessee.

iv. All corner coordinates of the mine lease area, superimposed on a High Resolution Imagery/ toposheet, topographic sheet, geomorphology and geology of the area should be provided. Such an Imagery of the proposed area should clearly show the land use and other ecological features of the study area (core and buffer zone).

v. Information should be provided in Survey of India Toposheet in 1:50,000 scale indicating geological map of the area, geomorphology of land forms of the area, existing minerals and mining history of the area, important water bodies, streams and rivers and soil characteristics.

vi. Details about the land proposed for mining activities should be given with information as to whether mining conforms to the land use policy of the State; land diversion for mining should have approval from State land use board or the concerned authority.

vii. It should be clearly stated whether the proponent Company has a well laid down Environment Policy approved by its Board of Directors? If so, it may be spelt out in the EIA Report with description of the prescribed operating process/procedures to bring into focus any infringement/deviation/ violation of the environmental or forest norms/ conditions? The hierarchical system or administrative order of the Company to deal with the environmental issues and for ensuring compliance with the EC conditions may also be given. The system of reporting of non-compliances / violations of environmental norms to the Board of Directors of the Company and/or shareholders or stakeholders at large, may also be detailed in the EIA Report.

viii. Issues relating to Mine Safety, including subsidence study in case of underground mining and slope study in case of open cast mining, blasting study etc. should be detailed. The proposed safeguard measures in each case should also be provided.

ix. The study area will comprise of 10 km zone around the mine lease from lease periphery and the data contained in the EIA such as waste generation etc. should be for the life of the mine / lease period.

x. Land use of the study area delineating forest area, agricultural land, grazing land, wildlife sanctuary, national park, migratory routes of fauna, water bodies, human settlements and other ecological features should be indicated. Land use plan of the mine lease area should be prepared to encompass preoperational, operational and post operational phases and submitted. Impact, if any, of change of land use should be given.

xi. Details of the land for any Over Burden Dumps outside the mine lease, such as extent of land area, distance from mine lease, its land use, R&R issues, if any, should be given.

xii. A Certificate from the Competent Authority in the State Forest Department should be provided, confirming the involvement of forest land, if any, in the project area. In the event of any contrary claim by the Project Proponent regarding the status of forests, the site may be inspected by the State Forest Department along with the Regional Office of the Ministry to ascertain the status of forests, based on which, the Certificate in this regard as mentioned above be issued. In all such cases, it would be desirable for representative of the State Forest Department to assist the Expert Appraisal Committees.

xiii. Status of forestry clearance for the broken up area and virgin forestland involved in the Project including deposition of net present value (NPV) and compensatory afforestation (CA) should be indicated. A copy of the forestry clearance should also be furnished.

xiv. Implementation status of recognition of forest rights under the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 should be indicated.

xv. The vegetation in the RF / PF areas in the study area, with necessary details, should be given.

xvi. A study shall be got done to ascertain the impact of the Mining Project on wildlife of the study area and details furnished. Impact of the project on the wildlife in the surrounding and any other protected area and accordingly, detailed mitigative measures required, should be worked out with cost implications and submitted.

xvii. Location of National Parks, Sanctuaries, Biosphere Reserves, Wildlife Corridors, Ramsar site Tiger/ Elephant Reserves/(existing as well as proposed), if any, within 10 km of the mine lease should be clearly indicated, supported by a location map duly authenticated by Chief Wildlife Warden. Necessary clearance, as may be applicable to such projects due to proximity of the ecologically sensitive areas as mentioned above, should be obtained from the Standing Committee of National Board of Wildlife and copy furnished.

xviii. A detailed biological study of the study area [core zone and buffer zone (10 km radius of the periphery of the mine lease)] shall be carried out. Details of flora and fauna, endangered, endemic and RET Species duly authenticated, separately for core and buffer zone should be furnished based on such primary field survey, clearly indicating

the Schedule of the fauna present. In case of any scheduled- I fauna found in the study area, the necessary plan alongwith budgetary provisions for their conservation should be prepared in consultation with State Forest and Wildlife Department and details furnished. Necessary allocation of funds for implementing the same should be made as part of the project cost.

xix. Proximity to Areas declared as 'Critically Polluted' or the Project areas likely to come under the 'Aravali Range', (attracting court restrictions for mining operations), should also be indicated and where so required, clearance certifications from the prescribed Authorities, such as the SPCB or State Mining Department should be secured and furnished to the effect that the proposed mining activities could be considered.

xx. Similarly, for coastal Projects, A CRZ map duly authenticated by one of the authorized agencies demarcating LTL. HTL, CRZ area, location of the mine lease w.r.t CRZ, coastal features such as mangroves, if any, should be furnished. (Note: The Mining Projects falling under CRZ would also need to obtain approval of the concerned Coastal Zone Management Authority).

xxi. R&R Plan/compensation details for the Project Affected People (PAP) should be furnished. While preparing the R&R Plan, the relevant State/National Rehabilitation & Resettlement Policy should be kept in view. In respect of SCs /STs and other weaker sections of the society in the study area, a need based sample survey, family-wise, should be undertaken to assess their requirements, and action programmes prepared and submitted accordingly, integrating the sectoral programmes of line departments of the State Government. It may be clearly brought out whether the village(s) located in the mine lease area will be shifted or not. The issues relating to shifting of village(s) including their R&R and socio-economic aspects should be discussed in the Report.

xxii. One season (non-monsoon) [i.e. March-May (Summer Season); October-December (post monsoon season) ; December-February (winter season)]primary baseline data on ambient air quality as per CPCB Notification of 2009, water quality, noise level, soil and flora and fauna shall be collected and the AAQ and other data so compiled presented date-wise in the EIA and EMP Report. Site-specific meteorological data should also be collected. The location of the monitoring stations should be such as to represent whole of the study area and justified keeping in view the pre-dominant downwind direction and location of sensitive receptors. There should be at least one monitoring station within 500 m of the mine lease in the pre-dominant downwind direction. The mineralogical composition of PM10, particularly for free silica, should be given.

xxiii. Air quality modeling should be carried out for prediction of impact of the project on the air quality of the area. It should also take into account the impact of movement of vehicles for transportation of mineral. The details of the model used and input parameters used for modeling should be provided. The air quality contours may be shown on a location map clearly indicating the location of the site, location of

sensitive receptors, if any, and the habitation. The wind roses showing pre-dominant wind direction may also be indicated on the map.

xxiv. The water requirement for the Project, its availability and source should be furnished. A detailed water balance should also be provided. Fresh water requirement for the Project should be indicated.

xxv. Necessary clearance from the Competent Authority for drawl of requisite quantity of water for the Project should be provided.

xxvi. Description of water conservation measures proposed to be adopted in the Project should be given. Details of rainwater harvesting proposed in the Project, if any, should be provided.

xxvii. Impact of the Project on the water quality, both surface and groundwater, should be assessed and necessary safeguard measures, if any required, should be provided.

xxviii. Based on actual monitored data, it may clearly be shown whether working will intersect groundwater. Necessary data and documentation in this regard may be provided. In case the working will intersect groundwater table, a detailed Hydro Geological Study should be undertaken and Report furnished. The Report inter-alia, shall include details of the aquifers present and impact of mining activities on these aquifers. Necessary permission from Central Ground Water Authority for working below ground water and for pumping of ground water should also be obtained and copy furnished.

xxix. Details of any stream, seasonal or otherwise, passing through the lease area and modification / diversion proposed, if any, and the impact of the same on the hydrology should be brought out.

xxx. Information on site elevation, working depth, groundwater table etc. Should be provided both in AMSL and bgl. A schematic diagram may also be provided for the same.

xxxi. A time bound Progressive Greenbelt Development Plan shall be prepared in a tabular form (indicating the linear and quantitative coverage, plant species and time frame) and submitted, keeping in mind, the same will have to be executed up front on commencement of the Project. Phase-wise plan of plantation and compensatory afforestation should be charted clearly indicating the area to be covered under plantation and the species to be planted. The details of plantation already done should be given. The plant species selected for green belt should have greater ecological value and should be of good utility value to the local population with emphasis on local and native species and the species which are tolerant to pollution.

xxxii. Impact on local transport infrastructure due to the Project should be indicated. Projected increase in truck traffic as a result of the Project in the present road network (including those outside the Project area) should be worked out, indicating whether it is capable of handling the incremental load. Arrangement for improving the infrastructure, if contemplated (including action to be taken by other agencies

such as State Government) should be covered. Project Proponent shall conduct Impact of Transportation study as per Indian Road Congress Guidelines.

xxxiii. Details of the onsite shelter and facilities to be provided to the mine workers should be included in the EIA Report.

xxxiv. Conceptual post mining land use and Reclamation and Restoration of mined out areas (with plans and with adequate number of sections) should be given in the EIA report.

xxxv. Occupational Health impacts of the Project should be anticipated and the proposed preventive measures spelt out in detail. Details of pre-placement medical examination and periodical medical examination schedules should be incorporated in the EMP. The project specific occupational health mitigation measures with required facilities proposed in the mining area may be detailed.

xxxvi. Public health implications of the Project and related activities for the population in the impact zone should be systematically evaluated and the proposed remedial measures should be detailed along with budgetary allocations.

xxxvii. Measures of socio economic significance and influence to the local community proposed to be provided by the Project Proponent should be indicated. As far as possible, quantitative dimensions may be given with time frames for implementation.

xxxviii. Detailed environmental management plan (EMP) to mitigate the environmental impacts which, should inter-alia include the impacts of change of land use, loss of agricultural and grazing land, if any, occupational health impacts besides other impacts specific to the proposed Project.

xxxix. Public Hearing points raised and commitment of the Project Proponent on the same along with time bound Action Plan with budgetary provisions to implement the same should be provided and also incorporated in the final EIA/EMP Report of the Project.

xl. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

xli. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

xlii. A Disaster management Plan shall be prepared and included in the EIA/EMP Report.

xliii. Benefits of the Project if the Project is implemented should be spelt out. The benefits of the Project shall clearly indicate environmental, social, economic, employment potential, etc.

xliv. Besides the above, the below mentioned general points are also to be followed :-

a) Executive Summary of the EIA/EMP Report

b) All documents to be properly referenced with index and continuous page numbering.

c) Where data are presented in the Report especially in Tables, the period in which the data were collected and the sources should be indicated.

d) Project Proponent shall enclose all the analysis/testing reports of water, air, soil, noise etc. using the MoEF & CC / NABL accredited laboratories. All the original analysis / testing reports should be available during appraisal of the Project.

e) Where the documents provided are in a language other than English, an English translation should be provided.

f) The Questionnaire for environmental appraisal of mining projects as devised earlier by the Ministry shall also be filled and submitted.

g) While preparing the EIA report, the instructions for the Proponents and instructions for the Consultants issued by MoEF& CC vide O.M. No. J-11013/41/2006-IA.II(I) dated 4th August, 2009, which are available on the website of this Ministry, should be followed.

h) Changes, if any made in the basic scope and project parameters (as submitted in Form-I and the PFR for securing the TOR) should be brought to the attention of MoEF & CC with reasons for such changes and permission should be sought, as the TOR may also have to be altered. Post Public Hearing changes in structure and content of the draft EIA/EMP (other than modifications arising out of the P.H. process) will entail conducting the PH again with the revised documentation.

i) As per the circular no. J-11011/618/2010-IA.II(I) dated 30.5.2012, certified report of the status of compliance of the conditions stipulated in the environment clearance for the existing operations of the project, should be obtained from the Regional Office of Ministry of Environment, Forest and Climate Change, as may be applicable.

j) The EIA report should also include (i) surface plan of the area indicating contours of main topographic features, drainage and mining area, (ii) geological maps and sections and (iii) sections of the mine pit and external dumps, if any, clearly showing the land features of the adjoining area.

xlv. After preparing the draft EIA (as per the generic structure prescribed in Appendix- III of the EIA Notification, 2006) covering the above mentioned issues, the proponent will get the public hearing conducted and take further necessary action for obtaining environmental clearance in accordance with the procedure prescribed under the EIA Notification, 2006.

xlvi. The Prescribed ToRs is valid as per O.M. F. No. IA3-22/10/2022-IA.III[E177258], dated 08.06.2022 of MoEF&CC, Govt. of India.

Standard Conditions :

I. Examine details of land use as per Master Plan and land use around 10 km radius of the project site Analysis should be made based on latest satellite imagery for land use with raw images. Check on flood plain of any river.

II. Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/villages and present status of such activities.

III. Examine baseline environmental quality along with projected incremental load due to the project.

IV. Environmental data to be considered in relation to the project development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.

V. Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area. Any obstruction of the same by the project.

VI. Submit the details of the trees to be felled for the project.

VII. Submit the present land use and permission required for any conversion such as forest, agriculture etc.

VIII. Submit roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.

IX. Ground water classification as per the Central Ground Water Authority.

X. Examine the details of Source of water, water requirement, use of treated waste water and prepare a water balance chart.

XI. Rain water harvesting proposals should be made with due safeguards for ground water quality Maximize recycling of water and utilization of rain water. Examine details.

XII. Examine soil characteristics and depth of ground water table for rainwater harvesting.

XIII. Examine details of solid waste generation treatment and its disposal.

XIV. Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption. Energy conservation and energy efficiency.

XV. DG sets are likely to be used during construction and operational phase of the project. Emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.

XVI. Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project. Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.

XVII. A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.

XVIII. Examine the details of transport of materials for construction which should include source and availability.

XIX. Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.

XX. Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.

XXI. Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.

XXII. The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

XXIII. Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "http://moef.nic.in/Manual/Townships".

XXIV. The Prescribed ToRs is valid as per O.M. F. No. IA3-22/10/2022-IA.III[E177258], dated 08.06.2022 of MoEF&CC, Govt. of India.

जिला खनन कार्यालय, पाकुड़

ज्ञापांक ...../एम0, दिनांक .....

प्रेषित,

मेसर्स श्रीगुरू स्टोन वर्क्स,
प्रो0–श्री अमरजीत सिंह, पिता–स्व0 कुलदीप सिंह,
मालगोदाम रोड, बागतीपाड़ा, पाकुड़।

विषय : पाकुड़ अंचलान्तर्गत मौजा–काशीला नं0–15 के खाता सं0–48, 39, 21, 44, 59, 65, प्लॉट नं0–646/पी0, 647/1587/पी0, 647/पी0, 648/पी0, 649/पी0, 650/पी0, 651/पी0, 652/पी0, 653/पी0, 654/पी0, रकवा–5.69 एकड़ क्षेत्र के लिए निर्गत Contiguous Certificate के संबंध में।

प्रसंग : Sr Audit Officer (Field) AMG-III, प्रधान महालेखाकार (अंकेक्षण) का कार्यालय, झारखण्ड, रांची का Audit observation reference : #18 (OBS-1161436), दिनांक 03.01.2024 एवं उपायुक्त, पाकुड़ के आदेश दिनांक 19.03.2024, इस कार्यालय के ज्ञापांक 417/एम0, दिनांक 22.03.2024 एवं आपसे प्राप्त उत्तर दिनांक 03.04.2024

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के सन्दर्भ में कहना है कि पाकुड़ अंचलान्तर्गत मौजा–काशीला नं0–15 के खाता सं0–48, 39, 21, 44, 59, 65, प्लॉट नं0–646/पी0, 647/1587/पी0, 647/पी0, 648/पी0, 649/पी0, 650/पी0, 651/पी0, 652/पी0, 653/पी0, 654/पी0, रकवा–5.69 एकड़ क्षेत्र के लिए अधोहस्ताक्षरी के ज्ञापांक 1342/एम0, दिनांक 04.08.2021 से Contiguous Certificate निर्गत किया गया था, जिसमें आवेदित क्षेत्र सहित स्वीकृत खनन पट्टा एवं आशय का पत्र स्वीकृत क्षेत्र का कुल रकवा 17.44 एकड़ या 7.06 हे0 है, जिसके आधार पर पर्यारणीय स्वीकृति B-1 के स्तर से होना है, जबकि आपके द्वारा समर्पित पर्यावरणीय स्वीकृति B-2 Category (5 हे0 से कम) का है।

अतः उपरोक्त के आलोक में प्रश्नगत खनन पट्टा को Abeyance में रखते हुए निदेशित किया जाता है कि State Environment Impact Assessment Authority (SEIAA) से B-1 श्रेणी स्तर का पर्यावरणीय स्वीकृति प्राप्त कर अग्रेतर कार्यवाही हेतु इस कार्यालय में समर्पित करें।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 604/एम0, दिनांक 13/05/2024

प्रतिलिपि :– Member Secretary, State Environment Impact Assessment Authority (SEIAA), Jharkhand, Ranchi को सूचनार्थ एवं अग्रेतर कार्रवाई हेतु प्रेषित।

जिला खनन पदाधिकारी,
पाकुड़

"वोट जैसा कुछ नही, वोट जरूर डालेंगे हम"

जिला खनन कार्यालय, पाकुड़

यह जिससे संबंधित हो

प्रमाणित किया जाता है मेसर्स श्रीगुरू स्टोन वर्क्स, प्रो0–श्री अमरजीत सिंह, पिता–स्व0 कुलदीप सिंह, मालगोदाम रोड, बागतीपाड़ा, पाकुड़ द्वारा पाकुड़ अंचलान्तर्गत मौजा–काशीला नं0–15 के खाता सं0–48, 39, 21, 44, 59, 65, प्लॉट नं0–646/पी0, 647/1587/पी0, 647/पी0, 648/पी0, 649/पी0, 650/पी0, 651/पी0, 652/पी0, 653/पी0, 654/पी0, रकवा–5.69 एकड़ में खनन पट्टा स्वीकृति हेतु "आशय का पत्र" उपायुक्त, पाकुड़ के आदेश दिनांक 03.07.2021, संसूचन तिथि 06.07.2021 से निर्गत हैं। वर्त्तमान में पाकुड़ जिलान्तर्गत धारित पट्टों/LOI स्वीकृत क्षेत्र के अनुसार प्रश्नगत क्षेत्र के 500 मीटर (Contiguous) के दायरे में निम्नांकित खनन पट्टे/LOI स्वीकृत क्षेत्र आते है:–

दिशा	पट्टेधारी/LOI धारी का नाम	मौजा	रकवा	पट्टा अवधि
पूर्व – 500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
पश्चिम–500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
उत्तर–500 मीटर के अन्दर	मे0 श्रीगुरू स्टोन वर्क्स	काशीला	2.45 एकड़	दिनांक 09.07.2021 से 31.03.2022 तक
दक्षिण – 500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			

इस प्रकार आवेदित क्षेत्र सहित खनन पट्टों/LOI स्वीकृत क्षेत्र का कुल रकवा–8.14 एकड़ या 3.29 हे0 Contiguous क्षेत्र हैं। इसके अलावा आवेदित क्षेत्र से सटे (Contiguous) 500 मीटर में कोई खनन पट्टा स्वीकृत नहीं है।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 1342/एम0, पाकुड़, दिनांक 04/08/2021

प्रतिलिपि : मेसर्स श्रीगुरू स्टोन वर्क्स, प्रो0–श्री अमरजीत सिंह, पिता–स्व0 कुलदीप सिंह, मालगोदाम रोड, बागतीपाड़ा, पाकुड को उनके पत्र दिनांक 15.07.21 के सन्दर्भ में सूचनार्थ।

04/8/2021

अभिप्रमाणित

जिला खनन पदाधिकारी
पाकुड़

झारखण्ड सरकार ★ जिला खनन कार्यालय, पाकुड़ ★

जिला खनन पदाधिकारी,
पाकुड़

चुनाव देश का है
DESH KA GAURV

चुनाव देश का है
DESH KA GAURV

जिला खनन कार्यालय, पाकुड़

ज्ञापांक ...../एम0, दिनांक .....

प्रेषित,

मेसर्स राजीव रंजन पाण्डेय,
पार्ट0–श्री राजीव रंजन पाण्डेय, पिता–श्री अवधेश कुमार पाण्डेय एवं
श्री बासकी नाथ पाण्डेय, पिता–श्री राजीव रंजन पाण्डेय,
सिन्धीपाड़ा, पाकुड़।

विषय : **पाकुड़ अंचलान्तर्गत मौजा–श्रीरामपुर नं0–42 के जमाबन्दी सं0–08, 27, 34, 42 एवं 05, प्लॉट नं0–699/पी0, 702/पी0, 703/पी0, 704, 705, 706, 707, 708/पी0, 709/पी0, 710, 711/पी0, 712/पी0, 713/पी0, 714/पी0, 715/पी0, 716/पी0, 717/पी0, 718/पी0, 719/पी0, 720, 723/पी0 एवं 724/पी0, रकवा–6.28 एकड़ क्षेत्र के लिए निर्गत Contiguous Certificate के संबंध में।**

प्रसंग : **Sr Audit Officer (Field) AMG-III, प्रधान महालेखाकार (अंकेक्षण) का कार्यालय, झारखण्ड, रांची का Audit observation reference : #18 (OBS-1161436), दिनांक 03.01.2024 एवं उपायुक्त, पाकुड़ के आदेश दिनांक 19.03.2024, इस कार्यालय के ज्ञापांक 410/एम0, दिनांक 22.03.2024 एवं आपसे प्राप्त उत्तर दिनांक 08.04.2024**

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के सन्दर्भ में कहना है कि पाकुड़ अंचलान्तर्गत मौजा–श्रीरामपुर नं0–42 के जमाबन्दी सं0–08, 27, 34, 42 एवं 05, प्लॉट नं0–699/पी0, 702/पी0, 703/पी0, 704, 705, 706, 707, 708/पी0, 709/पी0, 710, 711/पी0, 712/पी0, 713/पी0, 714/पी0, 715/पी0, 716/पी0, 717/पी0, 718/पी0, 719/पी0, 720, 723/पी0 एवं 724/पी0, रकवा–6.28 एकड़ क्षेत्र के लिए अधोहस्ताक्षरी के ज्ञापांक 1245/एम0, दिनांक 23.07.2021 से Contiguous Certificate निर्गत किया गया था, जिसमें आवेदित क्षेत्र सहित स्वीकृत खनन पट्टा एवं आशय का पत्र स्वीकृत क्षेत्र का कुल रकवा 16.69 एकड़ या 6.75 हे0 है, जिसके आधार पर पर्यारणीय स्वीकृति B-1 के स्तर से होना है, जबकि आपके द्वारा समर्पित पर्यावरणीय स्वीकृति B-2 Category (5 हे0 से कम) का है।

अतः उपरोक्त के आलोक में प्रश्नगत खनन पट्टा को Abeyance में रखते हुए निदेशित किया जाता है कि State Environment Impact Assessment Authority (SEIAA) से B-1 श्रेणी स्तर का पर्यावरणीय स्वीकृति प्राप्त कर अग्रेतर कार्यवाही हेतु इस कार्यालय में समर्पित करें।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 606 /एम0, दिनांक 13/05/2024

प्रतिलिपि :– Member Secretary, State Environment Impact Assessment Authority (SEIAA), Jharkhand, Ranchi को सूचनार्थ एवं अग्रेतर कार्रवाई हेतु प्रेषित।

जिला खनन पदाधिकारी,
पाकुड़

जिला खनन कार्यालय, पाकुड़

यह जिससे संबंधित हो

प्रमाणित किया जाता है मेसर्स राजीव रंजन पाण्डेय, पार्ट0–श्री राजीव रंजन पिता–श्री अवधेश कुमार पाण्डेय एवं श्री बासकी नाथ पाण्डेय, पिता–श्री राजीव रंजन सिन्धीपाड़ा, पाकुड़ द्वारा पाकुड़ अंचलान्तर्गत मौजा–श्रीरामपुर नं०–42 के जमाबन्दी सं. 34, 42 एवं 05, प्लॉट नं0–699/पी0, 702/पी0, 703/पी0, 704, 705, 706, 707, 709/पी0, 710, 711/पी0, 712/पी0, 713/पी0, 714/पी0, 715/पी0, 716/पी0, 718/पी0, 719/पी0, 720, 723/पी0 एवं 724/पी0, रकबा–6.28 एकड़ में खनन हेतु "आशय का पत्र" उपायुक्त, पाकुड़ के आदेश दिनांक 01.05.2021, संशोधन 5.2021 से निर्गत हैं। वर्तमान में पाकुड़ जिलान्तर्गत धारित पट्टों/LOI स्वीकृत क्षेत्र को अनगत क्षेत्र के 500 मीटर (Contiguous) के दायरे में निम्नांकित खनन पट्टे/LOI क्षेत्र आते है:–

	पट्टेधारी/LOI धारी का नाम	मौजा	रकबा	पट्टा अवधि
500 अन्दर	मे0 मन्ध्यान मिनरल्स कॉर0	श्रीरामपुर	3.66 एकड़	दिनांक 13.02.2020 से 10 वर्ष
500 अन्दर	कोई खनन पट्टा धारित नही है।			
मीटर दर	कोई खनन पट्टा धारित नही है।			
500 अन्दर	कोई खनन पट्टा धारित नही है।			

इस प्रकार आवेदित क्षेत्र के 500 मीटर के दायरे में वर्त्तमान में धारित खनन पट्टा (रकबा 3.66 एकड़) सहित आवेदित क्षेत्र का कुल रकबा 9.94 एकड़ है।

जिला खनन पदाधिकारी,
पाकुड़

1245 /एम0, पाकुड़, दिनांक 23/07/2021

प्रतिलिपि : मेसर्स राजीव रंजन पाण्डेय, पार्ट0–श्री राजीव रंजन पाण्डेय, पिता–श्री कुमार पाण्डेय एवं श्री बासकी नाथ पाण्डेय, पिता–श्री राजीव रंजन पाण्डेय, सिन्धीपाड़ा, को उनके पत्र दिनांक 17.07.2021 के सन्दर्भ में सूचनार्थ।

अभिप्रमाणित
जिला खनन पदाधिकारी
पाकुड़

जिला खनन पदाधिकारी,
पाकुड़

जिला खनन कार्यालय, पाकुड़

ज्ञापांक ...../एम0, दिनांक .....

प्रेषित,

मो0 नाजीमुद्दिन,
पिता–स्व0 मो0 ताहिरूद्दिन,
ग्राम+पो0–कासीममगर, जिला–वीरभूम(पं0बं0)।

विषय : महेशपुर अंचलान्तर्गत मौजा–धोवाडंगाल नं0–05, जमाबन्दी सं0–12 एवं 13, प्लॉट नं0–554, 555 एवं 556, रकवा–3.50 एकड़ क्षेत्र के लिए निर्गत Contiguous Certificate के संबंध में।

प्रसंग : Sr Audit Officer (Field) AMG-III, प्रधान महालेखाकार (अंकेक्षण) का कार्यालय, झारखण्ड, रांची का Audit observation reference : #18 (OBS-1161436), दिनांक 03.01.2024 एवं उपायुक्त, पाकुड़ के आदेश दिनांक 19.03.2024, इस कार्यालय के ज्ञापांक 419/एम0, दिनांक 22.03.2024 एवं आपसे प्राप्त उत्तर दिनांक 07.04.2024

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के सन्दर्भ में कहना है कि महेशपुर अंचलान्तर्गत मौजा–धोवाडंगाल नं0–05, जमाबन्दी सं0–12 एवं 13, प्लॉट नं0–554, 555 एवं 556, रकवा–3.50 एकड़ क्षेत्र के लिए अधोहस्ताक्षरी के ज्ञापांक 1043/एम0, दिनांक 03.07.2021 से Contiguous Certificate निर्गत किया गया था, जिसमें आवेदित क्षेत्र सहित स्वीकृत खनन पट्टा एवं आशय का पत्र स्वीकृत क्षेत्र का कुल रकवा 13.68 एकड़ या 5.54 हे0 है, जिसके आधार पर पर्यारणीय स्वीकृति B-I के स्तर से होना है, जबकि आपके द्वारा समर्पित पर्यावरणीय स्वीकृति B-2 Category (5 हे0 से कम) का है।

अतः उपरोक्त के आलोक में प्रश्नगत खनन पट्टा को Abeyance में रखते हुए निदेशित किया जाता है कि State Environment Impact Assessment Authority (SEIAA) से B-1 श्रेणी स्तर का पर्यावरणीय स्वीकृति प्राप्त कर अग्रेतर कार्यवाही हेतु इस कार्यालय में समर्पित करें।

ह0–
जिला खनन पदाधिकारी
पाकुड़

ज्ञापांक 605/एम0, दिनांक 13/05/2024

प्रतिलिपि :– Member Secretary, State Environment Impact Assessment Authority (SEIAA) Jharkhand, Ranchi को सूचनार्थ एवं अग्रेतर कार्रवाई हेतु प्रेषित।

जिला खनन पदाधिकारी
पाकुड़

जिला खनन कार्यालय, पाकुड़

यह जिससे संबंधित हो

प्रमाणित किया जाता है मो0 नाजीमुद्दिन, पिता–स्व0 मो0 ताहिरूद्दिन, ग्राम+पो0–कासीमनगर, जिला–वीरभूम(पं0बं0) द्वारा महेशपुर अंचलान्तर्गत मौजा–धोवाडंगाल नं0–05, जमाबन्दी सं0–12 एवं 13, प्लॉट नं0–554, 555 एवं 556, रकवा–3.50 एकड़ में खनन पट्टा स्वीकृति हेतु "आशय का पत्र" उपायुक्त, पाकुड़ के आदेश दिनांक 24.06.2021, संसूचन तिथि 26.06.2021 से निर्गत हैं। वर्त्तमान में पाकुड़ जिलान्तर्गत धारित पट्टों के अनुसार इस पट्टे के 500 मीटर (Contiguous) के दायरे में निम्नांकित खनन पट्टे आते है:–

दिशा	पट्टेधारी का नाम	मौजा	रकवा	पट्टा अवधि
पूर्व – 500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
पश्चिम–500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
उत्तर–500 मीटर के अन्दर	श्री कालीशंकर भगत	सिमलढाव	3.47 एकड़	दिनांक 25.10.17 से 10 वर्ष
	मे0 ए0बी0कम्पनी	सिमलढ़ाव	3.71 एकड़	दिनांक 25.10.17 से 10 वर्ष
दक्षिण – 500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			

इस प्रकार आवेदित क्षेत्र सहित खनन पट्टों का कुल रकवा–10.68 एकड़ या 4.32 हे0 Contiguous क्षेत्र हैं। इसके अलावा आवेदित क्षेत्र से सटे (Contiguous) 500 मीटर में कोई खनन पट्टा स्वीकृत नहीं है।

ह0–
जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 1043 /एम0, पाकुड़, दिनांक 03/07/21

प्रतिलिपि : मो0 नाजीमुद्दिन, पिता–स्व0 मो0 ताहिरूद्दिन, ग्राम+पो0–कासीमनगर, जिला–वीरभूम(पं0बं0) को उनके पत्र दिनांक 03.07.2021 के सन्दर्भ में सूचनार्थ।

03/7/20

जिला खनन पदाधिकारी,
पाकुड़

झारखण्ड सरकार ★ जिला खनन कार्यालय, पाकुड़ ★

अभिप्रमाणित

जिला खनन पदाधिकारी
पाकुड़

जिला खनन कार्यालय, पाकुड़

ज्ञापांक ...../एम0, दिनांक .....

प्रेषित,

श्री अविनाश कुमार भगत,
पिता–श्री प्रदीप प्रसाद भगत, धुलियान रोड,
हरिणडांगा बाजार, पाकुड़।

विषय : महेशपुर अंचलान्तर्गत मौजा– बलियापतरा नं०–322 के जमाबन्दी नं0–21, 22 एवं 15 के प्लॉट नं0–419, 693, 694, 695, 701, 702, 703, 704, 708, 709, 710, 711, 716, 717, 718, 719, 720, 721 एवं 722, रकवा–5.79 एकड़ क्षेत्र के लिए निर्गत Contiguous Certificate के संबंध में।

प्रसंग : Sr Audit Officer (Field) AMG-III, प्रधान महालेखाकार (अंकेक्षण) का कार्यालय, झारखण्ड, रांची का Audit observation reference : #18 (OBS-1161436), दिनांक 03.01.2024 एवं उपायुक्त, पाकुड़ के आदेश दिनांक 19.03.2024, इस कार्यालय के ज्ञापांक 418/एम0, दिनांक 22.03.2024 एवं आपसे प्राप्त उत्तर दिनांक 08.04.2024

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के सन्दर्भ में कहना है कि महेशपुर अंचलान्तर्गत मौजा– बलियापतरा नं०–322 के जमाबन्दी नं0–21, 22 एवं 15 के प्लॉट नं0–419, 693, 694, 695, 701, 702, 703, 704, 708, 709, 710, 711, 716, 717, 718, 719, 720, 721 एवं 722, रकवा–5.79 एकड़ क्षेत्र के लिए अधोहस्ताक्षरी के ज्ञापांक 1387/एम0, दिनांक 10.09.2020 से Contiguous Certificate निर्गत किया गया था, जिसमें आवेदित क्षेत्र सहित स्वीकृत खनन पट्टा एवं आशय का पत्र स्वीकृत क्षेत्र का कुल रकवा 15.83 एकड़ या 6.41 हे0 है, जिसके आधार पर पर्यारणीय स्वीकृति B-1 के स्तर से होना है, जबकि आपके द्वारा समर्पित पर्यावरणीय स्वीकृति B-2 Category (5 हे0 से कम) का है।

अतः उपरोक्त के आलोक में प्रश्नगत खनन पट्टा को Abeyance में रखते हुए निदेशित किया जाता है कि State Environment Impact Assessment Authority (SEIAA) से B-1 श्रेणी स्तर का पर्यावरणीय स्वीकृति प्राप्त कर अग्रेतर कार्यवाही हेतु इस कार्यालय में समर्पित करें।

ह0–
जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 600...../एम0, दिनांक 13/05/2024

प्रतिलिपि :– Member Secretary, State Environment Impact Assessment Authority (SEIAA), Jharkhand, Ranchi को सूचनार्थ एवं अग्रेतर कार्रवाई हेतु प्रेषित।

13/5/24
जिला खनन पदाधिकारी,
पाकुड़

जिला खनन कार्यालय, पाकुड़

यह जिससे संबंधित हो

प्रमाणित किया जाता है आवेदक श्री अविनाश कुमार भगत, पिता–श्री प्रदीप प्रसाद भगत, [illegible] रोड, हरिणडांगा बाजार, पाकुड़ द्वारा महेशपुर अंचलान्तर्गत मौजा– बलियापतरा नं०–322 के [illegible] 21, 22 एवं 15 के प्लॉट नं०–419, 693, 694, 695, 701, 702, 703, 704, 708, 709, 710, 711, 716, 718, 719, 720, 721 एवं 722, रकवा–5.79 एकड़ (2.34 हे०) में खनन पट्टा स्वीकृति हेतु एल०ओ०आई० [illegible] पाकुड़ के आदेश दिनांक 17.02.2020, संयुक्त तिथि 26.02.2020 से निर्गत है। वर्तमान में प्राप्त [illegible] के अनुसार इस पट्टे के 500 मीटर (Contiguous) के दायरे में निम्नांकित खनन पट्टे आते है:–

दिशा	पट्टेधारी का नाम	मौजा	रकवा	पट्टा अवधि	उत्पादन
– 500 र के अन्दर	मे० साहिल स्टोन वर्क्स	बलियापतरा	2.13 एकड़	08.01.2020 से 10 वर्षो के लिए विधिमान्य	कार्यरत
म–500 र के अन्दर	मे० डी०एस० स्टोन वर्क्स	सुन्दरपहाड़ी	1.15 एकड़	09.07.2011 से 10 वर्षो के लिए विधिमान्य	कार्यरत
र–500 र के अन्दर	मे० नाभ्या स्टोन वर्क्स	बलियापतरा	2.26 एकड़	एल०ओ०आई निर्गत	अकार्यरत
ण – 500 र के अन्दर	कोई खनन पट्टा धारित नही है।				

इस तरह श्री अविनाश कुमार भगत के पक्ष में एल०ओ०आई० निर्गत खनन पट्टा क्षेत्र 79 एकड़ है, मे० साहिल स्टोन वर्क्स के पक्ष में स्वीकृत खनन पट्टा क्षेत्र रकवा 2.13 एकड़, मे० डी०एस० स्टोन वर्क्स के पक्ष में स्वीकृत खनन पट्टा क्षेत्र रकवा 1.15 एकड़ एवं मे० नाभ्या स्टोन वर्क्स के पक्ष में "आशय पत्र" निर्गत खनन पट्टा क्षेत्र रकवा 2.26 एकड़ है। इस प्रकार आवेदित क्षेत्र सहित खनन पट्टो का कुल रकवा– 11.33 एकड़ या 4.65 हे० Contiguous क्षेत्र है। इसके अलावा आवेदित क्षेत्र से सटे (Contiguous) 500 मीटर में कोई खनन पट्टा स्वीकृत नहीं है।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 1287 /एम०, पाकुड़, दिनांक 10/09/2020

प्रतिलिपि : श्री अविनाश कुमार भगत, पिता–श्री प्रदीप प्रसाद भगत, धुलियान रोड हरिणडांगा बाजार, पाकुड़ को उनके पत्र दिनांक 25.7.2020 के सन्दर्भ में सूचनार्थ।

जिला खनन पदाधिकारी,
पाकुड़

झारखण्ड सरकार
खनन कार्यालय, पाकुड़

अभिप्रमाणित
जिला खनन पदाधिकारी
पाकुड़

10/09/2020

जिला खनन कार्यालय, पाकुड़

ज्ञापांक ...../एम0, दिनांक .....

प्रेषित,

मेसर्स नाम्या स्टोन वर्क्स,
पार्ट0–श्री आशीष कुमार दत्ता, पिता–श्री बम्कीम चन्द्र दत्ता,
नेताजी नगर, वार्ड नं0–5, नलहट्टी, जिला–वीरभूम(पं0बं0) एवं
ताजेल अली, पिता–स्व0 सैयद अली, छाया पल्ली, नलहट्टी,
जिला–वीरभूम(पं0बं0)

विषय : महेशपुर अंचलान्तर्गत मौजा–बलियापतरा नं०–322 के प्लॉट नं0–131, 132, 136, 388, 390, 392 एवं 393/पी0, रकवा–2.86 एकड़ क्षेत्र के लिए निर्गत Contiguous Certificate के संबंध में।

प्रसंग : Sr Audit Officer (Field) AMG-III, प्रधान महालेखाकार (अंकेक्षण) का कार्यालय, झारखण्ड, रांची का Audit observation reference : #18 (OBS-1161436), दिनांक 03.01.2024 एवं उपायुक्त, पाकुड़ के आदेश दिनांक 19.03.2024 एवं कार्यालय ज्ञापांक 610/एम0, दिनांक 13.05.2024

महाशय,

उपर्युक्त विषयक प्रसंगिक पत्र के सन्दर्भ में कहना है कि महेशपुर अंचलान्तर्गत मौजा–बलियापतरा नं०–322 के प्लॉट नं0–131, 132, 136, 388, 390, 392 एवं 393/पी0, रकवा–2.86 एकड क्षेत्र के लिए अधोहस्ताक्षरी के ज्ञापांक 1790/एम0, दिनांक 08.10.2021 से Contiguous Certificate निर्गत किया गया था, जिसमें आवेदित क्षेत्र सहित स्वीकृत खनन पट्टा एवं आशय का पत्र स्वीकृत क्षेत्र का कुल रकवा 30.74 एकड या 12.44 हे0 है, जिसके आधार पर पर्यावरणीय स्वीकृति B-1 के स्तर से होना है। परन्तु https://parivesh.nic.in पोर्टल पर अपलोड Contiguous Certificate में भिन्नता पायी गई है, जिससे प्रतीत होता है कि आपके द्वारा कार्यालय ज्ञापांक 1790/एम0, दिनांक 08.10.2021 में छेडछाड़ किया गया है। आपके द्वारा दाखिल ई0सी0 मान्य नही है।

निदेश दिया जाता है कि अविलम्ब राक्षम प्राधिकार से निर्गत वैध ई0सी0 दाखिल करें, ताकि खनन पट्टा के बावत अग्रेतर कार्रवाई की जा सके।

ह0-
जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 1106./एम0, दिनांक 19/07/2024
प्रतिलिपि :– Member Secretary, State Environment Impact Assessment Authority (SEIAA), Jharkhand, Ranchi को सूचनार्थ एवं अग्रेतर कार्रवाई हेतु प्रेषित।

19/7/24
जिला खनन पदाधिकारी,
पाकुड़

जिला खनन कार्यालय, पाकुड़

यह जिससे संबंधित हो

प्रमाणित किया जाता है मेसर्स नाभ्या स्टोन वर्क्स, पार्ट0–श्री आशीष कुमार दत्ता, पिता–श्री बंकिम चन्द्र दत्ता, नेताजी नगर, वार्ड नं0–5, नलहट्टी, वीरभूम(पं0बं0) एवं ताजेल अली, पिता–स्व0 सायेद अली, ग्राम–छायापल्ली, नलहट्टी, जिला–वीरभूम(पं0बं0) द्वारा महेशपुर अंचलान्तर्गत मौजा–बलियापतरा नं0–322 के जमाबन्दी सं0–08, 06, 18, 20 एवं 19 के प्लॉट नं0–131, 132, 136, 388, 390, 392 एवं 393/पी0, आवेदित क्षेत्र का कुल रकवा–2.86 एकड़ या 1.16 हे0 में खनन पट्टा स्वीकृति हेतु "आशय का पत्र" उपायुक्त, पाकुड़ के आदेश दिनांक 24.10.2019, संसूचन तिथि 30.10.2019 से निर्गत हैं। वर्त्तमान में पाकुड़ जिलान्तर्गत धारित पट्टों/LOI स्वीकृत क्षेत्र के अनुसार प्रश्नगत क्षेत्र के 500 मीटर (Contiguous) के दायरे में निम्नांकित खनन पट्टे/LOI स्वीकृत क्षेत्र है:–

दिशा	पट्टेधारी का नाम	मौजा	रकवा	पट्टा अवधि
पूर्व – 500 मीटर के अन्दर	मे0 साहिल स्टोन वर्क्स	बलियापतरा	4.63 एकड़	दिनांक 08.01.2020 से 10 वर्षों के लिए धारित।
	मे0 डी0एस0स्टोन वर्क्स	सुन्दरपहाड़ी	2.55 एकड़	दिनांक 31.03.2022 तक के लिए अवधि विस्तारित।
पश्चिम–500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
उत्तर–500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
दक्षिण – 500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			

इस प्रकार आवेदित क्षेत्र के 500 मीटर के दायरे में इस आवेदित क्षेत्र सहित धारित खनन पट्टों/LOI क्षेत्र का कुल रकवा–10.04 एकड़ या 4.063 हे0 है।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 1790 /एम0, पाकुड़, दिनांक 08/10/2021

प्रतिलिपि : मेसर्स नाभ्या स्टोन वर्क्स, पार्ट0–श्री आशीष कुमार दत्ता, पिता– श्री बंकिम चन्द्र दत्ता, नेताजी नगर, वार्ड नं0–5, नलहट्टी, वीरभूम(पं0बं0) एवं ताजेल अली, पिता–स्व0 सायेद अली, ग्राम–छायापल्ली, नलहट्टी, जिला–वीरभूम(पं0बं0) को उनके पत्र दिनांक 13.02.2021 के सन्दर्भ में सूचनार्थ।

08/10/2021

जिला खनन पदाधिकारी,
पाकुड़

जिला खनन कार्यालय, पाकुड़

ज्ञापांक ...../एम0, दिनांक .....

प्रेषित,

मेसर्स फोर स्टार स्टोन वर्क्स,
प्रो0–अहिदुर रहमान, पिता–अबु बकार,
ग्राम–नया अंजना, पो0–पृथ्वीनगर, पाकुड़।

विषय : **हिरणपुर अंचलान्तर्गत मौजा–मानसिंहपुर नं0–103, जमाबन्दी सं0–71 एवं 20 एवं मौजा–प्रतापपुर नं०–104 के जमाबन्दी सं0–8, 7, 6, 9 एवं 4 के प्लॉट नं0–54/पी0, 72/1542, 73, 594, 595, 596, 597, 616, 617, 618, 619, 620, 621, 622, 623 एवं 625, रकवा–6.55 एकड़ क्षेत्र के लिए निर्गत Contiguous Certificate के संबंध में।**

प्रसंग : **Sr Audit Officer (Field) AMG-III, प्रधान महालेखाकार (अंकेक्षण) का कार्यालय, झारखण्ड, रांची का Audit observation reference : #18 (OBS-1161436), दिनांक 03.01.2024 एवं उपायुक्त, पाकुड़ के आदेश दिनांक 19.03.2024, इस कार्यालय के ज्ञापांक 411/एम0, दिनांक 22.03.2024 एवं आपसे प्राप्त उत्तर दिनांक 08.04.2024**

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के सन्दर्भ में कहना है कि हिरणपुर अंचलान्तर्गत मौजा–मानसिंहपुर नं0–103, जमाबन्दी सं0–71 एवं 20 एवं मौजा–प्रतापपुर नं०–104 के जमाबन्दी सं0–8, 7, 6, 9 एवं 4 के प्लॉट नं0–54/पी0, 72/1542, 73, 594, 595, 596, 597, 616, 617, 618, 619, 620, 621, 622, 623 एवं 625, रकवा–6.55 एकड़ क्षेत्र के लिए अधोहस्ताक्षरी के ज्ञापांक 1247/एम0, दिनांक 08.08.2020 से Contiguous Certificate निर्गत किया गया था, जिसमें आवेदित क्षेत्र सहित स्वीकृत खनन पट्टा एवं आशय का पत्र स्वीकृत क्षेत्र का कुल रकवा 12.36 एकड़ या 5.00 हे0 है, जिसके आधार पर पर्यारणीय स्वीकृति B-1 के स्तर से होना है, जबकि आपके द्वारा समर्पित पर्यावरणीय स्वीकृति B-2 Category (5 हे0 से कम) का है।

अतः उपरोक्त के आलोक में प्रश्नगत खनन पट्टा को Abeyance में रखते हुए निदेशित किया जाता है कि State Environment Impact Assessment Authority (SEIAA) से B-1 श्रेणी स्तर का पर्यावरणीय स्वीकृति प्राप्त कर अग्रेतर कार्यवाही हेतु इस कार्यालय में समर्पित करें।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 602 /एम0, दिनांक 13/05/2024

प्रतिलिपि :– Member Secretary, State Environment Impact Assessment Authority (SEIAA), Jharkhand, Ranchi को सूचनार्थ एवं अग्रेतर कार्रवाई हेतु प्रेषित।

जिला खनन पदाधिकारी
पाकुड़

जिला खनन कार्यालय, पाकुड़

यह जिससे संबंधित हो

प्रमाणित किया जाता है मेसर्स फोर स्टार स्टोन वर्क्स, प्रो0–अहिदुर रहमान, पिता–अबु बकार, ग्राम–नया अंजना, पो0–पृथ्वीनगर, पाकुड़ द्वारा हिरणपुर अंचलान्तर्गत नरसिंहपुर सं0–103, जमाबन्दी सं0–71 एवं 20 एवं मौजा–प्रतापपुर सं0–104 के सं0–8, 7, 6, 9 एवं 4 के प्लॉट नं0–54/पी0, 72/1542, 73, 594, 595, 596, 597, 7, 618, 619, 620, 621, 622, 623 एवं 625, रकवा–6.55 एकड़ में खनन पट्टा स्वीकृत ओ0आई0 उपायुक्त, पाकुड़ के आदेश दिनांक 27.09.2019, संसूचना तिथि 28.09.2019 से वर्तमान में धारित पट्टो के अनुसार इस पट्टे के 500 मीटर (Contiguous) के दायरे में खनन पट्टे आते है:–

	पट्टेधारी का नाम	मौजा	रकवा	पट्टा अवधि	अभ्युक्ति
00 न्दर	कोई खनन पट्टा धारित नही है।				
0 न्दर	कोई खनन पट्टा धारित नही है।				
न्दर	कोई खनन पट्टा धारित नही है।				
500 न्दर	मेसर्स श्री स्टार स्टोन वर्क्स,	मौजा–मानसिंहपुर,	रकवा–5.01 एकड़,	दिनांक 19.09.2017 से 10 वर्षों के लिए (कार्यरत) धारित है।	

इस तरह मेसर्स फोर स्टार स्टोन वर्क्स के पक्ष में एल0ओ0आई0 निर्गत खनन पट्टा एकड़ एवं मेसर्स श्री स्टार स्टोन वर्क्स के पक्ष में स्वीकृत खनन पट्टा रकवा है। इस प्रकार आवेदित क्षेत्र सहित खनन पट्टों का कुल रकवा–11.56 एकड़ या 4.67 uous क्षेत्र हैं। इसके अलावा आवेदित क्षेत्र से सटे (Contiguous) 500 मीटर में कोई स्वीकृत नहीं है।

जिला खनन पदाधिकारी,
पाकुड़

47 /एम0, पाकुड़, दिनांक 08/08/2020

प्रतिलिपि : मेसर्स फोर स्टार स्टोन वर्क्स, प्रो0–अहिदुर रहमान, पिता–अबु बकार, अंजना, पो0–पृथ्वीनगर, पाकुड़ को उनके पत्र दिनांक 08.05.2020 के सन्दर्भ में

जिला खनन पदाधिकारी,
पाकुड़
08/08/2020

प्रमाणित
पदाधिकारी
06/09/2020

जिला खनन कार्यालय, पाकुड़

ज्ञापांक ...../एम0, दिनांक .....

प्रेषित,

मेसर्स मनोज स्टोन वर्क्स,
प्रो0–श्री मनोज कुमार गौंड, पिता–श्री श्याम लाल गौंड,
ग्राम–शहरकोल, गोकुलपुर, पाकुड़।

विषय : हिरणपुर अंचलान्तर्गत मौजा–तालपहाड़ी नं0–115 के जमाबन्दी सं0–3, प्लॉट नं0–426/पी0, 429, 430, 435, 436, 437, 438, 439, 440, 441 एवं 442, रकवा–6.28 एकड़ क्षेत्र के लिए निर्गत Contiguous Certificate के संबंध में।

प्रसंग : Sr Audit Officer (Field) AMG-III, प्रधान महालेखाकार (अंकेक्षण) का कार्यालय, झारखण्ड, रांची का Audit observation reference : #18 (OBS-1161436), दिनांक 03.01.2024 एवं उपायुक्त, पाकुड़ के आदेश दिनांक 19.03.2024, इस कार्यालय के ज्ञापांक 415/एम0, दिनांक 22.03.2024 एवं आपसे प्राप्त उत्तर दिनांक 09.04.2024

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के सन्दर्भ में कहना है कि हिरणपुर अंचलान्तर्गत मौजा–तालपहाड़ी नं0–115 के जमाबन्दी सं0–3, प्लॉट नं0–426/पी0, 429, 430, 435, 436, 437, 438, 439, 440, 441 एवं 442, रकवा–6.28 एकड़ क्षेत्र के लिए अधोहस्ताक्षरी के ज्ञापांक 1691/एम0, दिनांक 22.09.2020 से Contiguous Certificate निर्गत किया गया था, जिसमें आवेदित क्षेत्र सहित स्वीकृत खनन पट्टा एवं आशय का पत्र स्वीकृत क्षेत्र का कुल रकवा 13.25 एकड़ या 5.36 हे0 है, जिसके आधार पर पर्यारणीय स्वीकृति B-1 के स्तर से होना है, जबकि आपके द्वारा समर्पित पर्यावरणीय स्वीकृति B-2 Category (5 हे0 से कम) का है।

अतः उपरोक्त के आलोक में प्रश्नगत खनन पट्टा को Abeyance में रखते हुए निदेशित किया जाता है कि State Environment Impact Assessment Authority (SEIAA) से B-1 श्रेणी स्तर का पर्यावरणीय स्वीकृति प्राप्त कर अग्रेतर कार्यवाही हेतु इस कार्यालय में समर्पित करें।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 603/एम0, दिनांक 13/05/2024

प्रतिलिपि :– Member Secretary, State Environment Impact Assessment Authority (SEIAA), Jharkhand, Ranchi को सूचनार्थ एवं अग्रेतर कार्रवाई हेतु प्रेषित।

जिला खनन पदाधिकारी,
पाकुड़

जिला खनन कार्यालय, पाकुड़

यह जिससे संबंधित हो

प्रमाणित किया जाता है मेसर्स मनोज स्टोन वर्क्स, प्रो0–श्री मनोज कुमार गौंड, पिता–श्री श्याम लाल गौंड, ग्राम–शहरकोल, गोकुलपुर, पाकुड़ द्वारा हिरणपुर अंचलान्तर्गत मौजा–तालपहाड़ी नं0–115 के जमाबन्दी सं0–3, प्लॉट नं0–426/पी0, 429, 430, 435, 436, 437, 438, 439, 440, 441 एवं 442, रकवा–6.28 एकड़ में खनन पट्टा स्वीकृति हेतु "आशय का पत्र" उपायुक्त, पाकुड़ के आदेश दिनांक 20.08.2020, संसूचन तिथि 27.08.2020 से निर्गत हैं। संभान में धारित पट्टों के अनुसार इस पट्टे के 500 मीटर (Contiguous) के दायरे में निम्नांकित खनन पट्टे आते है:–

दिशा	पट्टेधारी का नाम	मौजा	रकवा	पट्टा अवधि	अभ्युक्ति
पूर्व – 500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।				
पश्चिम–500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।				
उत्तर –500 मीटर के अन्दर	मे0 रानी स्टोन वर्क्स	तालपहाड़ी	6.07 एकड़	दिनांक 07.01.2020 से 10 वर्ष	कार्यरत
दक्षिण – 500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।				

इस तरह मेसर्स मनोज स्टोन वर्क्स के पक्ष में "आशय का पत्र" निर्गत खनन पट्टा क्षेत्र 6.28 एकड़ एवं मेसर्स रानी स्टोन वर्क्स के पक्ष में स्वीकृत खनन पट्टा क्षेत्र रकवा 6.07 एकड़ है। इस प्रकार आवेदित क्षेत्र सहित खनन पट्टों का कुल रकवा–12.35 एकड़ या 4.91 हे0 Contiguous क्षेत्र है। इसके अलावा आवेदित क्षेत्र से सटे (Contiguous) 500 मीटर में कोई खनन पट्टा स्वीकृत नहीं है।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 1691 /एम0, पाकुड़, दिनांक 22/09/2020

प्रतिलिपि : मेसर्स मनोज स्टोन वर्क्स, प्रो0–श्री मनोज कुमार गौंड, पिता–श्री श्याम लाल गौंड, ग्राम–शहरकोल, गोकुलपुर, पाकुड़ को उनके पत्र दिनांक ..... के सन्दर्भ में सूचनार्थ।

जिला खनन पदाधिकारी,
पाकुड़
22/09/2020

अभिप्रमाणित
जिला खनन पदाधिकारी
पाकुड़

झारखण्ड सरकार
जिला खनन कार्यालय, पाकुड़

चुनाव का पर्व
DESH KA GARV

चुनाव का पर्व
DESH KA GARV

जिला खनन कार्यालय, पाकुड़

ज्ञापांक ...../एम0, दिनांक .....

प्रेषित,

मेसर्स सी0बी0 स्टोन वर्क्स,
पार्ट0–श्री जितेन्द्र कुमार बेलानी,
पिता–स्व0 परशुराम बेलानी, सिन्धीपाड़ा, पाकुड़।

विषय : **पाकुड़ अंचलान्तर्गत मौजा–श्रीरामपुर नं०–42 के जमाबन्दी नं0–31, 36 एवं 38, प्लॉट नं0–493/पी0, 494/पी0, 495/पी0, 496, 529, 540, 541, 544/पी0, 545/पी0 एवं 546/पी0, रकवा–6.75 एकड़ क्षेत्र के लिए निर्गत Contiguous Certificate के संबंध में।**

प्रसंग : **Sr Audit Officer (Field) AMG-III, प्रधान महालेखाकार (अंकेक्षण) का कार्यालय, झारखण्ड, रांची का Audit observation reference : #18 (OBS-1161436), दिनांक 03.01.2024, उपायुक्त, पाकुड़ के आदेश दिनांक 19.03.2024, इस कार्यालय के ज्ञापांक 414/एम0, दिनांक 22.03.2024 एवं आपसे प्राप्त उत्तर दिनांक 06.04.2024**

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के सन्दर्भ में कहना है कि पाकुड़ अंचलान्तर्गत मौजा–श्रीरामपुर नं०–42 के जमाबन्दी नं0–31, 36 एवं 38, प्लॉट नं0–493/पी0, 494/पी0, 495/पी0, 496, 529, 540, 541, 544/पी0, 545/पी0 एवं 546/पी0, रकवा–6.75 एकड़ क्षेत्र के लिए अधोहस्ताक्षरी के ज्ञापांक 996/एम0, दिनांक 01.07.2021 से Contiguous Certificate निर्गत किया गया था, जिसमें आवेदित क्षेत्र सहित स्वीकृत खनन पट्टा एवं आशय का पत्र स्वीकृत क्षेत्र का कुल रकवा 13.03 एकड़ या 5.27 हे0 है, जिसके आधार पर पर्यावरणीय स्वीकृति B-1 के स्तर से होना है, जबकि आपके द्वारा समर्पित पर्यावरणीय स्वीकृति B-2 Category (5 हे0 से कम) का है।

अतः उपरोक्त के आलोक में प्रश्नगत खनन पट्टा को Abeyance में रखते हुए निदेशित किया जाता है कि State Environment Impact Assessment Authority (SEIAA) से B-1 श्रेणी स्तर का पर्यावरणीय स्वीकृति प्राप्त कर अग्रेतर कार्यवाही हेतु इस कार्यालय में समर्पित करें।

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जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 607/एम0, दिनांक 13/05/2024

प्रतिलिपि :– Member Secretary, State Environment Impact Assessment Authority (SEIAA), Jharkhand, Ranchi को सूचनार्थ एवं अग्रेतर कार्रवाई हेतु प्रेषित।

जिला खनन पदाधिकारी,
पाकुड़

"वोट जैसा कुछ नही, वोट जरूर डालेंगे हम"

जिला खनन कार्यालय, पाकुड़

यह जिससे संबंधित हो

प्रमाणित किया जाता है मेसर्स सी0बी0 स्टोन वर्क्स, पार्ट0–श्री जितेन्द्र कुमार बेलानी, पिता–स्व0 परशुराम बेलानी, सिन्धीपाड़ा, पाकुड़ द्वारा पाकुड़ अंचलान्तर्गत मौजा–[illegible] सं0–42 के जमाबन्दी नं0–31, 36 एवं 38, प्लॉट नं0–493/पी0, 494/पी0, [illegible], 525, 526, 529, 540, 541, 544/पी0, 545/पी0 एवं 546/पी0, रकबा–6.75 एकड़ में खनन पट्टा स्वीकृति हेतु आशय का पत्र" उपायुक्त, पाकुड़ के आदेश दिनांक 01.05.2021, सूचना तिथि 19.05.2021 से निर्गत हैं। वर्त्तमान में पाकुड़ जिलान्तर्गत धारित पट्टों/LOI स्वीकृत क्षेत्र के अनुसार प्रश्नगत क्षेत्र के 500 मीटर (Contiguous) के दायरे में निम्नांकित खनन पट्टे/LOI स्वीकृत क्षेत्र आते है:–

दिशा	पट्टेधारी का नाम	मौजा	रकबा	पट्टा अवधि
उत्तर – 500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
पश्चिम–500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
उत्तर–500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
दक्षिण – 500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			

इस प्रकार आवेदित क्षेत्र के 500 मीटर के दायरे में वर्त्तमान में कोई खनन पट्टा स्वीकृत नही है।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 996 /एम0, पाकुड़, दिनांक 01/07/2021

प्रतिलिपि : मेसर्स सी0बी0 स्टोन वर्क्स, पार्ट0–श्री जितेन्द्र कुमार बेलानी, पिता–स्व0 परशुराम बेलानी, सिन्धीपाड़ा, पाकुड़ को उनके पत्र दिनांक 25.06.2021 के सन्दर्भ में सूचनार्थ।

01/7/21

जिला खनन पदाधिकारी,
पाकुड़

अभिप्रमाणित

जिला खनन पदाधिकारी
पाकुड़

जिला खनन कार्यालय, पाकुड़

ज्ञापांक ...../एम0, दिनांक .....

प्रेषित,

मेसर्स जीशान स्टोन वर्क्स,
प्रो0–जियाउल रहमान, पिता–जाकीम शेख,
ग्राम–जयकिस्टोपुर, पो0–मनीरामपुर, जिला–पाकुड़।

विषय : हिरणपुर अंचलान्तर्गत मौजा–तालपहाड़ी नं0–115 के जमाबन्दी नं0–21, 08, प्लॉट नं0–1226/पी0, 1227/पी0, 1228, 1230, 1231, 1232, 1233 एवं 1234, रकवा–2.60 एकड़ क्षेत्र के लिए निर्गत Contiguous Certificate के संबंध में।

प्रसंग : Sr Audit Officer (Field) AMG-III, प्रधान महालेखाकार (अंकेक्षण) का कार्यालय, झारखण्ड, रांची का Audit observation reference : #18 (OBS-1161436), दिनांक 03.01.2024 एवं उपायुक्त, पाकुड़ के आदेश दिनांक 19.03.2024, इस कार्यालय के ज्ञापांक 416/एम0, दिनांक 22.03.2024 एवं आपसे प्राप्त उत्तर दिनांक 05.04.2024

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के सन्दर्भ में कहना है कि हिरणपुर अंचलान्तर्गत मौजा–तालपहाड़ी नं0–115 के जमाबन्दी नं0–21, 08, प्लॉट नं0–1226/पी0, 1227/पी0, 1228, 1230, 1231, 1232, 1233 एवं 1234, रकवा–2.60 एकड़ क्षेत्र के लिए अधोहस्ताक्षरी के ज्ञापांक 1060/एम0, दिनांक 06.07.2021 से Contiguous Certificate निर्गत किया गया था, जिसमें आवेदित क्षेत्र सहित स्वीकृत खनन पट्टा एवं आशय का पत्र स्वीकृत क्षेत्र का कुल रकवा 13.35 एकड़ या 5.40 हे0 है, जिसके आधार पर पर्यारणीय स्वीकृति B-1 के स्तर से होना है, जबकि आपके द्वारा समर्पित पर्यावरणीय स्वीकृति B-2 Category (5 हे0 से कम) का है।

अतः उपरोक्त के आलोक में प्रश्नगत खनन पट्टा को Abeyance में रखते हुए निदेशित किया जाता है कि State Environment Impact Assessment Authority (SEIAA) से B-1 श्रेणी स्तर का पर्यावरणीय स्वीकृति प्राप्त कर अग्रेतर कार्यवाही हेतु इस कार्यालय में समर्पित करें।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 601 /एम0, दिनांक 13/05/2024

प्रतिलिपि :– Member Secretary, State Environment Impact Assessment Authority (SEIAA), Jharkhand, Ranchi को सूचनार्थ एवं अग्रेतर कार्रवाई हेतु प्रेषित।

जिला खनन पदाधिकारी,
पाकुड़

जिला खनन कार्यालय, पाकुड़

यह जिससे संबंधित हो

प्रमाणित किया जाता है मेसर्स जीशान स्टोन वर्क्स, प्रो0–जियाउल रहमान पिता–जाकीम शेख, ग्राम–जयकिस्टोपुर, पो0–मनीरामपुर, जिला–पाकुड़ द्वारा हिरणपुर अंचलान्तर्गत मौजा–तालपहाड़ी नं0–115 के जमाबन्दी नं0–21, 08, प्लॉट नं0–1226/पी0, 1227/पी0, 1228, 1230, 1231, 1232, 1233 एवं 1234, रकवा–2.60 एकड़ में खनन पट्टा स्वीकृति हेतु "आशय का पत्र" उपायुक्त, पाकुड़ के आदेश दिनांक 16.03.2021, संसूचन तिथि 23.03.2021 से निर्गत हैं। वर्त्तमान में पाकुड़ जिलान्तर्गत धारित पट्टों/LOI स्वीकृत क्षेत्र के अनुसार प्रश्नगत क्षेत्र के 500 मीटर (Contiguous) के दायरे में निम्नांकित खनन पट्टे/LOI स्वीकृत क्षेत्र है:–

दिशा	पट्टेधारी का नाम	मौजा	रकवा	पट्टा अवधि
पूर्व – 500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
पश्चिम–500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
उत्तर–500 मीटर के अन्दर	कोई खनन पट्टा धारित नही है।			
दक्षिण – 500 मीटर के अन्दर	विद्यार्थी स्टोन वर्क्स	मानसिंहपुर	4.20 एकड़	दिनांक 31.03.20 तक विधिमान्य

इस प्रकार आवेदित क्षेत्र सहित धारित पत्थर खनन पट्टा क्षेत्र का रकवा 6.80 एकड़ या 2.75 हे0 है।

जिला खनन पदाधिकारी,
पाकुड़

ज्ञापांक 1060 /एम0, पाकुड़, दिनांक 06/07/21

प्रतिलिपि : मेसर्स जीशान स्टोन वर्क्स, प्रो0–जियाउल रहमान, पिता–जाकीम शेख, ग्राम–जयकिस्टोपुर, पो0–मनीरामपुर, जिला–पाकुड़ को उनके पत्र दिनांक 06.07.2021 के सन्दर्भ में सूचनार्थ।

अभिप्रमाणित

जिला खनन पदाधिकारी
पाकुड़

जिला खनन पदाधिकारी,
पाकुड़