सत्यमेव जयते

राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण, झारखण्ड

State Level Environment Impact Assessment Authority, Jharkhand

पौधशाला परिसर, धुर्वा, बस स्टैण्ड,के समीप, पो0+थाना–धुर्वा, राँची झारखण्ड 834004

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पत्रांकः– 284 दिनांकः– 16/10/2024

प्रेषकः

सदस्य सचिव,
राज्य स्तरीय पर्यावरण समाघात निर्धारण
प्राधिकरण (SEIAA), झारखण्ड।

सेवा में,

उपायुक्त,
जिला : सरायकेला–खरसावाँ,
झारखण्ड।

विषय : सरायकेला–खरसावाँ जिला का पत्थर खनिज से संबंधित DSR के अनुमोदन के संबंध में।

प्रसंग : आपका कार्यालय का पत्रांक–869 / खनन, दि0–21.08.2024।

महाशय,

उपर्युक्त विषयक आपके कार्यालय के प्रासंगिक पत्र दिनांक 21.08.2024 द्वारा **सरायकेला–खरसावाँ** जिला का पत्थर खनिज से संबंधित DSR की एक प्रति अनुमोदन हेतु दिनांक 22.08.2024 को SEIAA कार्यालय में समर्पित किया गया।

तद्नुसार SEAC, झारखण्ड की 117वीं बैठक दिनांक 27.09.2024 से दिनांक 01.10.2024 में संबंधित DSR का आकलन किया गया तथा निम्नवत बिन्दूओं पर आपकी सहमति प्राप्त करते हुए DSR अनुमोदन हेतु SEIAA को अनुशंसा भेजा गया :

1. The final DSR had been placed in the public domain for 21 days from the 19.07.2024. As per the Sub Divisional Committee no comments / observations were obtained.

2. The DSR has been prepared as per the format provided in the notification no SO 3611 (E), dated-25.07.2018 issued by MoEF & CC Govt. of India. The DSR submitted has been **prepared** by the Sub-Divisional Committee for final approval. All the aspects of the notification dated 25.07.2018 are incorporated in the DSR and found to be satisfactory

तद्आलोक में SEIAA, झारखण्ड की 117वीं बैठक दिनांक 15.10.2024 एवं दिनांक 16.10.2024 में विचार किया गया तथा सामुहिक निर्णयोंपरांत **सरायकेला–खरसावाँ** जिला का पत्थर खनिज से संबंधित DSR का अनुमोदन किया गया।

सरायकेला–खरसावाँ जिला का पत्थर खनिज से संबंधित अनुमोदित DSR की एक मूल प्रति अत्र– सह–संलग्न कर आपको अग्रेतर कार्रवाई हेतु भेजा जा रहा है।

अनु० यथोक्त।

विश्वासभाजन,

16/12/2024

सदस्य सचिव,
राज्य स्तरीय पर्यावरण समाघात निर्धारण
प्राधिकरण (SEIAA), झारखण्ड।

DISTRICT SURVEY REPORT

OF

MINOR MINERAL – STONE

[OTHER THAN SAND MINING OR RIVER-BED MINING]

FOR

SERAIKELA-KHARSAWAN DISTRICT OF JHARKHAND STATE

As per the Gazette Notification No. - S.O. - 3611 (E), 25th July 2018 by Ministry of Environment Forest & Climate Change, Govt. of India

State Level Environment Impact Assessment Authority
Approved
Jharkhand, Ranchi

Prepared by:

SUB-DIVISIONAL COMMITTEE

SERAIKELA-KHARSAWAN DISTRICT, JHARKHAND

CERTIFICATE

The District Survey Report (DSR) for Minor mineral (Stone) other than Sand Mining or River-bed Mining in Saraikela-Kharsawan District of Jharkhand State has been prepared by sub- divisional committee of Saraikela-Kharsawan district administration.

District Survey Report for Minor mineral (Stone) other than Sand Mining or River-bed Mining in Saraikela-Kharsawan District is prepared under;

- MoEF & CC, GoI Notification No. - S.O. 3611 (E) dated 25/07/2018.
- Jharkhand Minor Mineral Concession Rule, 2004 (as amended from time to time).

The information mentioned in the District Survey Report for Minor mineral (Stone) other than Sand Mining or River-bed Mining in Saraikela-Kharsawan District of Jharkhand State are correct to the best of our knowledge.

Authorized Signatory

State Level Environment Impact Assessment Authority
Approved
Jharkhand, Ranchi

The Deputy Commissioner though its letter 358/M, Saraikela-Kharsawan, dated 02/06/2023 had constituted the sub-divisional committee to monitor the District Survey Report. List of the members of the sub-divisional Committee is shown below:

S.L No.	Officer's	Signature
1	Sub-Divisional Officer, Saraikela	20/8/2024
2	Executive Engineer, Minor Irrigation Division, Saraikela	20/8/24
3	Regional Officer, JSPCB, Adityapur, Jamshedpur	For 20/08/24
4	Divisional Forest Officer Saraikela-Kharsawan	20/8/24
5	District Mining Officer, Saraikela-Kharsawan	20.08.2024
6	Assistant Director, Geology, District Geological Office, Saraikela-Kharsawan	20.08.2024

Deputy Commissioner
Saraikela-Kharsawan

State Level Environment Impact Assessment Authority, Jharkhand, Ranchi
Approved

Approved by,

Member 16/10/24.
State Level Environment Impact Assessment Authority, Jharkhand

SEIAA, Jharkhand

Chairman 16.10.24
State Level Environment Impact Assessment Authority, Jharkhand

16/10/2024
Member Secretary
State Level Environment Impact Assessment Authority
Jharkhand

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PREFACE

The need for District Survey Report (DSR) have been necessitated by Ministry of Environment, Forest and Climate Change (MoEF & CC) vide their Notification No. - 125 (Extraordinary, Part II Section 3, Sub-section ii), S.O. - 141 (E), dated 15th January 2016. The notification was addressed to bring certain amendments with respect to the EIA notification 2006 and in order to have a better control over the legislation, District level committees have been introduced in the system. As a part of this notification, preparation of District Survey Report has been emphasized. Subsequently, MoEF & CC has published Notification No. - 3611 (E), dated 25th July 2018 regarding inclusion of the format of District Survey Report (DSR) for "Minor minerals other than Sand Mining or River-bed Mining". This DSR has been prepared in conformity with the Notification No. - S.O. - 141 (E), S.O. - 3611 (E) and other Sand mining guidelines published by MoEF & CC time to time as well as the requirement specified in Jharkhand Minor Mineral Concession Rules.

The main purpose of DSR is to identify the mineral potential areas to develop the mining activities along with relevant current geological data of the district where mining can be allowed; and also, to distinguish the areas where mining will not be allowed due to proximity to infrastructural structures and installations. The District Survey Report shall guide for systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large.

The occurrences of Minor minerals in the district have been established by Department of Mines and Geology, Government of Jharkhand and others in previous instances. It requires further systematic and scientific approach to quantify the resource along with their grade assessment. This report also recommends to undertake detail exploration program to assess the Minor mineral occurrences in the district and should have a proper development and production plan for the specified minerals so as to satisfy the demand and supply gap of Minor minerals in the district.

1 INTRODUCTION

The District Survey Report of Saraikela-Kharsawan District has been prepared as per the guidelines of Ministry of Environment, Forest & Climate Change (MoEF & CC), Government of India vide Notification S.O. - 1533(E) dated 14th Sept. 2006 and subsequent MoEF & CC Notification S.O. - 141(E) dated 15th Jan. 2016. This report shall guide systematic and scientific utilization of natural resources, so that present and future generation may be benefitted at large. Further, MoEF & CC published a Notification S.O. - 3611(E), dated 25th July, 2018 and recommended the format for District Survey Report for Minor minerals other than Sand Mining or River-bed Mining.

The objectives of the District Survey Report are as following:

1. Identification and Quantification of mineral resource and its optimal utilization.
2. To regulate the Minor mineral's mining in the Country, identification of site-specific end-use consumers and reduction in demand & supply gaps.
3. Use of information technology (IT) & latest scientific method of mining for surveillance of the Minor mineral's mining at each step.
4. District Survey Report shall enable Environmental Clearance for cluster of Minor minerals. Its hall assists concerned Department during post environmental clearance monitoring.
5. To control the instance of illegal mining.
6. To maintain the livelihood of nearby village's peoples.
7. To keep accumulated data records viz. Details of Mineral Resource, Potential area, Lease, Approved Mining Plan, Co-ordinates of a District at one place.
8. To maintain the records of Royalty/Revenue generation.
9. A concise guideline can be framed considering the point discussed in the DSR for Minor mineral's mining in the district.

The District Survey report (DSR) is comprised of secondary data published and endorsed by various departments and websites about geology of the area, mineral resources, climate, topography, land form, forest, rivers, soil, agriculture, road, transportation, irrigation etc. Data on lease and mining activities in the district, revenue etc. are collected and collated from concerned District Head Quarter.

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1.1 Statutory Framework

Evolution of the Environmental Regulatory Framework:

The below table has mentioned the requirement of District Survey Report and its year wise modification;

Table 1-1: Requirement of District Survey Report & its year wise modification of Guidelines

Year	Particulars
1994	The Ministry of Environment, Forest & Climate Change (MoEF & CC) published Environmental Impact Assessment Notification 1994 which is onlyapplicable for the Major minerals having mining lease area more than 5 Ha.
2006	In order to cover the minor minerals also into the preview of EIA, the MoEF & CC issued EIA Notification SO 1533 (E), dated 14th September 2006, made mandatory to obtain environmental clearance for both Major & Minor Mineral more than 5 Ha.
2012	Further, Hon'ble Supreme Court wide order dated the 27th February, 2012 in I.A. No.12- 13 of 2011 in Special Leave Petition (C) No.19628-19629 of 2009, in the matter of Deepak Kumar etc. Vs. State of Haryana and Others etc., ordered that "leases of minor minerals including their renewal for an area of less than five hectares be granted by the States/Union Territories only after getting environmental clearance from MoEF"; and Hon'ble National Green Tribunal, order dated the 13th January, 2015 in the matter regarding sand mining has directed for making a policy on environmental clearance for mining leases in cluster for minor Minerals.
2016	The MoEF & CC in compliance of above Hon'ble Supreme Court's and NGT'sorder has prepared "Sustainable Sand Mining Guidelines (SSMG), 2016" in consultation with State Governments, detailing the provisions on Environmental Clearance (EC) for cluster, creation of District Environment Impact Assessment Authority, preparation of District Survey Report and for proper monitoring of minor mineral. Thereby issued notification dated 15.01.2016 for making certain amendments in the EIA Notification, 2006, and made mandatory to obtain EC for all minor minerals. Provisions have been made for the

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Year	Particulars
	preparation of District Survey Report (DSR) of River-bed material and other minor minerals
2018	MoEF & CC published a notification S.O. - 3611(E) Dated 25th July 2018 and recommended the format for District Survey Report for Minor minerals other than Sand mining or River-bed mining. The notification stated about the objective of DSR, i.e. "identification of the mineral potential areas to develop the mining activities along with relevant current geological data of the District where mining can be allowed; and also to distinguish the areas where mining will not be allowed due to proximity to infrastructural structures and installations.

The Ministry of Environment Forest & Climate Change formulated the format of District Survey Report for Minor minerals other than Sand Mining or River-bed Mining which focuses on the management of Minor mineral's mining in the country. But in the recent past, it has been observed that apart from management and systematic mining practices there is an urgent need to have a guideline for effective enforcement of regulatory provision and their monitoring. Section 23 C of MMDR 1957 empowered the State Government to make rules for preventing illegal mining, transportation and storage of minerals but in the recent past, it has been observed that there was large number of illegal mining cases in the Country and in some cases, many of the officers lost their lives while executing their duties for curbing illegal mining incidence. The illegal and uncontrolled illegal mining leads to loss of revenue to the State and degradation of the environment.

1.2 Methodology of DSR Preparation

The data related to district profile, geology, mineralization, and mining activity are sketchy and disjointed. There are multiple data sources, which are in the public domain, as well as in Government website. To prepare District Survey Report, need to collate all the available databases on these iron regards. A comprehensive and a meaningful interpretable database created, which would be necessary to demonstrate the district overview. Workflow for the DSR job is as follows.

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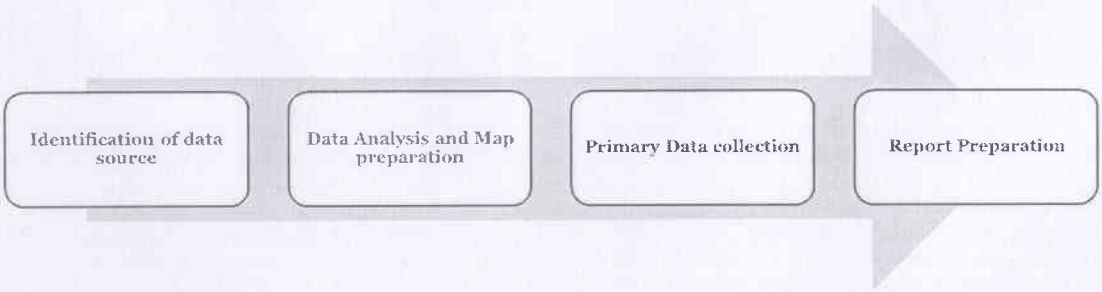

Data source Identification: District Survey Report has been prepared based on the primary data base and secondary data base collated from different sources. This is very critical to identify authentic data sources before collating the data set. The secondary data sources which are used in DSR are mostly based on Government published data or the published report in reputed journal. District profile has been prepared based on the District Census 2011. Potential mineral resources have been described based on GSI or any other Govt. agencies work done. Mining lease details and the revenue generated from Minor minerals has been prepared based on available data from District Mining Office of the district. Satellite image has been used for map preparation related to physiography and land utilization pattern of the district.

Data Analysis and Map Preparation: Dataset which are captured during the report preparation are gone through detail analysis work. District Survey Report involves the analytical implication of captured dataset to prepare relevant maps. Methodology adopted for preparation of relevant maps is explained below.

Land Use and Land Cover Map: Land Use and Land Cover classification is a complex process and requires consideration of many factors. The major steps of image classification may include determination of a suitable classification system via Visual Image Interpretation, selection of training samples, Satellite image (FCC-False Colour Composition) pre-processing, selection of suitable classification approaches, post-classification processing, and accuracy assessment.

Here LISS-III satellite Imagery has been taken for Supervised Classification as supervised classification can be much more accurate than unsupervised classification, but depends heavily on the training sites, the skill of the individual processing the image, and the spectral distinctness of the classes in broader scale.

According to the Visual Image Interpretation (Tone, Texture, Colour etc.) training set of the pixel has been taken.

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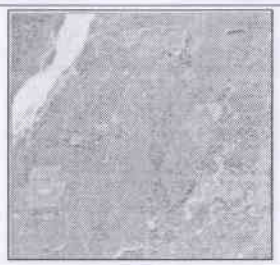
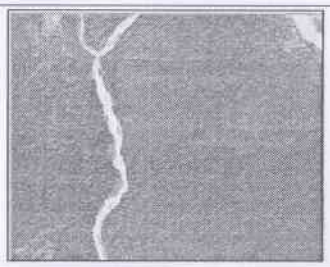
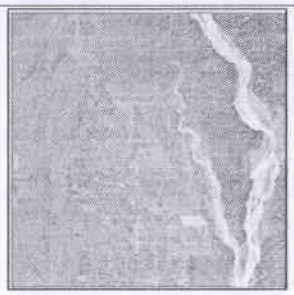
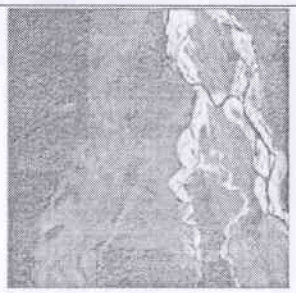
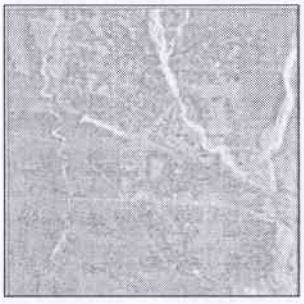
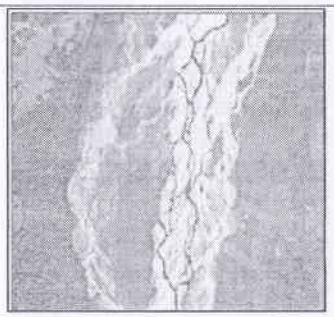
	
Agricultural Land - Based on their Geometrical shape, Red and Pink colour tone, Agricultural Land has been identified.	**Vegetation Covered Area** - Based on their continuous Red colour tone, Vegetation Covered Area has been identified.
	
Agricultural Fallow Land - Based on their Geometrical shape, Light and dark cyan with light pink colour tone, Agricultural Land has been identified.	**Bad Land Topography**- Light Yellowish mixed with cyan colour has been identified as Bad Land Topography.
	
Settlement – Area with Cyan Colour including geometrical shape has been recognised as Settlement Area.	**Water Bodies** – Dark blue colour has been classified as Water Bodies.

Figure 1-1:- Pictorial description of Land Use Classification methods

Geomorphological Map:

The major steps of preparing Geomorphological Map is identifying features like – Alluvial Fan, Alluvial Plain, Hilly region etc. from Satellite imagery (FCC - False Color Composition) via Visual

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Image Interpretation and then digitization has been taken into the consideration to prepare map including all the Geomorphological features according to their location.

Physiographical Map:

The major step of preparing Physiographical Map is generating contour at a specific interval to show the elevation of the area using Cartosat DEM.

Block Map:

- Raw Data collected from **National Informatics Centre (NIC Website).**
- Data has been geo-referenced using GIS software.
- Digitization of block boundary, district boundary, state boundary and district headquarter, sub –district headquarter, places, road, railway, river, nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Transportation Map:

- Raw Data collected from **National Informatics Centre (NIC Website).**
- Data has been geo-referenced using GIS software.
- Digitization of block boundary, district boundary, state boundary and district headquarter, sub –district headquarter, places, road, railway, river, nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Drainage Map:

- Raw Data collected from **National Informatics Centre (NIC Website).**
- Data has been geo-referenced using GIS software.
- Digitization of block boundary, district boundary, state boundary and district headquarter, sub –district headquarter, places, road, railway, river, nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Seismic Map:

- Raw data collected from **Ministry of Earth Science.**
- Data has been geo-referenced using GIS software.

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- Digitization of Earthquake zone and superimposed it over Block Boundary.
- Zone name has been filled in attribute table of the Layers
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Soil Map:

- Raw data collected from **National bureau of soil survey and land use planning.**
- Data has been geo-referenced using GIS software.
- Digitization of Soil classification zone and superimposed it over District Boundary.
- Soil classification has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Wildlife Sanctuary and National Park location Map:

- Raw data collected from **ENVIS Centre on Wildlife & Protected Areas.**
- Data has been geo-referenced using GIS software.
- Digitization of Wildlife Sanctuary & National Park and superimposed it over Block Boundary.
- Wildlife Sanctuary & National Park name has been filled in attribute table of the Layers

Final layout has been prepared by giving scale, legend, north arrow, etc.

Primary Data Collection: Although, field data collection is an integral part of DSR preparation. This report has been prepared with the holistic approach and data provided by District Mining Office. The DSR with all updated data has been prepared.

Report Preparation: District Survey Report has been prepared to fulfil the purpose of identification of mining area for Minor mineral and their impact on environment. Report provides details of the mineral potential zones. Assessing mining prospect with respect to minor minerals, List of Letter of Intent (LOI) incorporated in this report. Report also provides the socio environmental study for establishing mines of Minor minerals in the district.

2 OVERVIEW OF MINING ACTIVITY IN THE DISRICT

Mainly three types of Minor Minerals constituents such as Sand, Stone and Bajri are required for any type of construction apart from other material like cement and steel. In the earlier time the mud houses/buildings were constructed with the use of mud. However, with the passage of time, new techniques of development activities were started. As such the demand of Minor Mineral started on an increasing trend. In order to meet the requirement of raw material for construction, the extraction of stone carried out manually / semi- mechanized / mechanized process from the lease area.

The main mineral resources found in Saraikela-Kharsawan district are Stone Quartz, Quartzite, Sand, Pyrophyllite, Pot Stone, Soapstone, Brick, Pyroxenite.

Table 2-1:- Leases in Saraikela Kharsawan District

Sl. No.	Particular	No. of stone mine
1	**Working Mines**	22
2	**Expired Mines**	31
3	**LOI holder**	02
4	**Applied for LOI**	11
5	**Proposed by Department Geology**	15

(Source: - District Mining Office Saraikela Kharsawan)

- Existing/working mines is attached in chapter-09.

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Table 2-2:- Details of Mining Leases in the District

Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
1	Stone	Shri Radha Krishna Jaiswal (0103368901)	LENGDIH PLOT- 1P, KHATA-184	1007/ AMO 25.02.2011	9.510	25.02.2011	24.02.2021	Expired	Captive	Letter no 103 Order no 06 Aug 2013 Valid upto 24 Feb 2021	Location - Leungdih Block Chandil 22° 59' 11.40" N 85° 54' 57.32" E 22° 59' 16.21" N 85° 54' 57.03" E 22° 59' 20.15" N 85° 55' 17.02" E 22° 59' 15.95" N 85° 55' 17.54" E	Opencast	120000
2	Stone	Charu Chand Kisku (0103765601)	KONGLATAND PLOT- 167,168	15.12.2016	2.428	15.12.2016	14.12.2026	Working	Captive	EC/SEIAAA/2014-15/481/2014/219, Order date 07 Aug 2015, valid up to 14 Dec 2026	Location- Kanglatanr Block- Chandil 22° 58' 30.37" N	Opencast	11649510

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											86° 3' 43.70" E		
3	Stone	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	BHADUDIH PLOT-2261(P), 2241, 2242	18.08.2017	1.87	19.09.2015	18.09.2025	Temporarily Discontinued	Captive	EC/DEIAA/SARAIKELA/2016-17/50 Order date 21 Mar 2017, valid up to 18 Sep 2027	Location-Bhadudih Block-Chandil N - 22°54'36.3" to 22°54'40.8" E- 86°05'35.3" to 86°05'40"	Opencast	308767
4	Stone	Shri Hare Lal Mahato (0103372701)	BHADUDIH PLOT-2261P KHATA-430	1090 26.01.2009	0.80	26.01.2009	25.01.2019	Expired	Captive	EC/DEIAA/SKL/2016-17/32 DEIAA, Order date 17 Oct 2016, valid up to 25 Jan 2019	Location-Bhadudih Block-Chandil N- 22°43'30.2" to 22°43'37.57" E- 86°02'0.8" to 86°02'11.57"	Opencast	135872

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
5	Stone	M/s G.M. Enterprises	BHDUDIH PLOT-2177,2178P	3784/3772 08.07.2010	1.110	07-08-2010	07.07.2020	Expired	Captive	EC/DEIAA/SARAIKELA/2016-17/51, Order date 21 Mar 2017, valid up to 07 July 2020	Location-Bhadudih Block-Chandil 22° 54' 47.7" N 86° 05' 13.6" E 22° 54' 44.1" N 86° 05' 17.7" E	Opencast	485952
6	Stone	Shri Dipal Chandra Mahato (0103373501)	BHADUDIH PLOT-1478P KHATA-74	2000/1990 10.03.2011	2.023	10.03.2011	09.03.2021	Expired	Captive	EC/DEIAA/SARAIKELA/2017-18/74 DEIAA, Order date 26 August 2017	Location-Bhadudih Block-Chandil	Opencast	494465
7	Quartzite	M/s Balaji Infocom Proprietor Manish Agarwal	BANDARISAI PLOT NO-1112, 1113, 1111, 1093, 1114, & 1092,	2352/2237 14.08.2017	0.460	14.08.2017	13.08.2027	Working	Captive	EC/DEIAA/SARAIKELA/16-17/47, Order date 21 Mar 2017, valid up to 17 Sep 2027	Location-Bhandarisai Block-Saraikela N - 22°37'59.34" to 22°37'48.16" E - 85°55'40.36" to	Opencast	1227501

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											85°55'29.19"		
8	Stone	M/s G.V.R. Infra Project Ltd. (01033721 01)	BHADUDIH	73 09.02. 2010	3.29	09.02. 2010	08.02. 2020	Expired	Captive	2015-16/1196/2015/1819, Order dt. 23 Nov 2015, Valid upto 28 Jan 2020	Location-Bandua Block-Saraikela 22° 37' 14.60" N 85° 55' 21.15" E 22° 36' 58.47" N 85° 55' 18.24" E	Opencast	11500 82
9	Stone	M/s Kiran Enterprises (01031106 02)	BIDRI PLOT-1117P	19.07. 2015	1.49	19.07. 2015	18.07. 2025	Working	Captive	EC/DEIAA/SKL/2016 -17/31/DEIAA, Order date 17 Oct 2016, Valid up to 19 July 2025	Location-Bidri Block-Saraikela 22° 39' 56.71" N 86° 09' 47.08" E 22° 39'	Opencast	38394 10

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											55.12" N 86° 09' 52.18" E		
10	Stone	Sri Vivek Kumar Singh (0103369101)	CHILGU PLOT-804P,829,830	15.05.2015	2.14	15.05.2015	14.05.2020	Expired	Captive	EC/SEIAA/2015-16/727/2015/1143 Order date27 July 2015 Up to 14 May 2020	Location-Chilgu Block-Saraikela 22° 53' 54.6" N 86° 06' 21.3" E 22° 53' 49.08" N 86° 06' 22.5" E	Opencast	495725
11	Stone	Shri Narendra Singh (0103370101)	BHADUDIH PLOT-18P,20P KHATA-430	424/AMO 31.08.2011	1.540	31.08.2011	30.08.2021	Expired	Captive	Letter no 2528 Order date 31 Dec 2015 Valid upto 31 Aug 2021	Location-Chandil Block-Saraikela Latitude N 22°55'03.26" to N 22°55'07.63" Longitude	Opencast	283106

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											E 86°05'1.92" to E 86°05'12.60"		
12	Stone	M/s G.V.R. Infra Project Ltd. (0103372102)	GANGIDIH PLOT-106 KHATA-26	5242/5224 13.08.2010	3.72	13.08.2010	12.08.2020	Expired	Captive	2015-16/1921/2015/2623, Order dt. 31 Dec 2015, Valid upto 12 Aug 2020	Location-Gangidih Block-Saraikela 22° 37' 22.88" N 85° 55' 17.22" E 22° 37' 20.09" N 85° 55' 34.33" E	Opencast	939467
13	Stone	M/s Sun Eco Trading Sistem Pvt. Ltd.	GORANGKOCHA PLOT-2032,2085P, KHATA-200	218 05.11.2012	1.215	05.11.2012	04.11.2022	Expired	Captive	Letter No 368, Ranchi, Order dt. 07 May 2014	Location-Gourangkocha Block-Ichagarh 22° 59' 45" N 85° 57' 22" E	Opencast	189599

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											22° 59' 49" N 85° 57' 29" E		
14	Stone	M/s Anjani Minerals (01033737 01)	JORDIHA PLOT-847P KHATA-256	762 18.04. 2017	2.57 0	18.04. 2017	17.04. 2022	Expired	Captive	EC/SEIAA/2014-15/631/2015/874, Order dt. 01 May 2015, Valid upto 30 Apr 2025	Location-Joddiha Block-Saraikela 22° 39' 22.2" N 85° 54' 22.1" E 22° 43' 52.2" N 85° 52' 47.6" E	Opencast	74693 2
15	Stone	Md. Mustafa Ansari (01030619 01)	JORDIHA PLOT-509P KHATA-265	2244/2 132 30.12. 2016	3.32 0	13.08. 2017	12.08. 2027	Working	Captive	SARAIKELA/2016-17/33/DEIAA, Order dt. 17 Oct 2016, Valid upto 12 Aug 2027.	Location-Joddiha Block-Saraikela N - 22°36'36.9" to 22°36'29.8" E-	Opencast	42041 10

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											85°55'18.2" to 85°55'17.7"		
16	Stone	Shri Kashi Nath Sharma (0103371501)	JUMAL PLOT-497 KHATA-204	31.07.2014	0.980	31.07.2014	30.07.2024	Expired	Captive	EC/SEIAA/2014-15/558/2014/858, Order dt. 01 May 2015,	Vill- Jumal Block- Saraikela N - 22°36'06.1" to 22°36'11.4" E - 86°05'05.0" to 86°05'10.4"	Opencast	209614
17	Stone	M/s Laxmi Enterprises (0103373101)	BADKANKI PLOT-11, 12(p), 13, 14, & 15(p),	29.09.2011	4.710	24.09.2020	31.03.2022	Working	Captive	Letter No- 2378, Order dt. 30 Dec 2015, Valid upto 24 Sep 2020	Location- Katanga Block- Saraikela 22° 36' 59.0" N 85° 56' 01.5" E 22° 36' 58.0" N 85° 56'	Opencast	5373291

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											24.0" E 22° 36' 53.0" N 85° 56' 02.0" E 22° 36' 54.0" N 85° 56' 24.5" E		
18	Stone	M/s Bhadoria Transport Co (01033717 01)	LENGDIH PLOT- 1P, KHATA-184	1189/1128 28.08. 2015	4.352	28.08. 2015	27.08. 2025	Expired	Captive	EC/SEIAA/15-16/1893/2015/2492, Order dt. 31 Dec 2015, Valid upto 26 Aug 2025	Location- Lengdih Block- Saraikela 22°59'18.63" N 85°55'28.41" E 22°59'26.51" N 85°55'39.05" E 22°59'15.12" N 85°55'28.93" E 22°59'15.56" N	Opencast	583120

Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											85°55'40.14" E		
19	Stone	M/s Nav Nirman Builders 0103372801	LENGDIH PLOT- 1P, KHATA-184	1105 27.12.2010	3.540	27.12.2010	26.12.2020	Expired	Captive	EC/SEIAA/2015-16/1894/2015/2491, Order dt. 31 Dec 2015, Valid upto 26 Dec 2020	Location-Lengdih Block-Saraikela 22° 59' 15.56" N 85° 55' 39.05" E 22° 59' 18.54" N 85° 55' 42.15" E	Opencast	221115

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
20	Stone	Bhagwati Stone Crusher (0103370601)	MEDKI PLOT- 703P	18.06.2016	2.020	18.06.2016	17.06.2026	Working	Captive	EC/SEIA/2015-16/1181/2015/2003, Order dt. 30 Nov 2015, Valid upto 18 Jun 2026	Location-Medki Block-Saraikela 22° 36' 17.4" N 85° 54' 57.0" E 22° 36' 13.0" N 85° 54' 57.0" E 22° 36' 15.3" N 85° 55' 02.4" E 22° 36' 13.1" N 85° 55' 00.7" E	Opencast	1304472
21	Stone	M/s G.V.R. Infra Project Ltd. (0103372103)	MEDKI PLOT- 77 KHATA-55	661 09.10.2010	4.08	09.10.2010	08.10.2020	Expired	Captive	EC/SEIA/2015-16/1198/2015/1820, Order dt. 23 Nov 2015, Valid upto 08 July 2020	Location-Medki Block-Saraikela 22° 34' 47.30" N 86° 55' 04.47" E 22° 36'	Opencast	678027

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											51.17" N 85° 55' 14.68" E		
22	Stone	M/s Chanduka Minerals and chemicals pvt ltd 01030195001	MURKUM PLOT- 1588 KHATA-178	3652/3536 04.10.2015	4.570	04.10.2015	3.10.2025	Non-Working	Captive	EC/SEIAA/2015-16/776/2015/1194, Order dt. 07 Aug 2015, Valid upto 03 Oct 2025	Location-Murkum Block-Saraikela 22° 37' 52.6" N 85° 53' 40.53" E 22° 37' 45.29" N 85° 53' 57.05" E	Opencast	1152785
23	Stone	APS Enterprises (01035211 01)	NUADIH PLOT-82P,83,84,88 KHATA-88	21.06.2016	3.58	21.06.2016	20.06.2021	Expired	Captive	EC/SEIAA/2015-16/1686/15/2338, Order dt. 30 Dec 2015, Valid upto 20 June 2021	Location-Noadihi Block-Saraikela 22° 39' 51.41" N 85° 55' 5.64" E 22° 39' 30.53" N	Opencast	1210821

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											85° 55' 9.17" E		
24	Stone	APS Enterprises (0103521102)	NUADIH PLOT-145 KHATA-88	21.06.2016	2.460	21.06.2016	20.06.2021	Expired	Captive	EC/SEIAA/15-16/1558/2015/2241, Order dt. 30 Dec 2015, Valid upto 20 June 2021	Location-Noadihi Block-Saraikela 22° 39' 18.88" N 85° 54' 45.73" E	Opencast	501033
25	Stone	Shri Jagdish Chandra Mahato (0103372201)	RAMNAGAR PLOT-1390P KHATA-214	754 01.01.2010	2.882	01.01.2010	31.12.2019	Expired	Captive	EC/SEIA/2015-16/1769/2015/2495, Order dt. 12 Dec 2015, Valid upto 31 Dec 2019	Location-Ramnagar Block-Saraikela 23° 00' 5.2" N 86° 07' 8.4" E 23° 00' 2.8" N 86° 07' 3.1" E 22° 59' 59.5" N	Opencast	996476

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
											86° 07' 14.1" E 22° 59' 58.3" N 86° 07' 12.1" E		
26	Stone	SMT SUMAN CHIRANIA (01033723 01)	RAMNAGAR PLOT-1390P KHATA-214	2421/2294 01.01.2010	2.885	01.01.2010	31.01.2020	Expired	Captive	EC/SEIAA/2015-16/1770/15/2573, Order dt. 31 Dec 2015, Valid upto 31 Dec 2019	Location-Ramnagar Block-Saraikela 23° 00' 2.8" N 86° 07' 3.1" E 22° 59' 55.4" N 86° 07' 7.4" E	Opencast	436388

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
27	Stone	Shri Ghashiram Kisku (0103372401)	ROYADIH PLOT-1948 KHATA-157	217 03.10.2013	0.51	03.10.2013	02.10.2023	Expired	Captive	Letter No. - 366, Order dt. 07 May 2014, valid upto 02 Oct 2023	Location-Royadih Block-Saraikela 25° 58' 46.7" N 85° 58' 32.1" E 22° 58' 44.8" N 85° 58' 31.6" E 22° 58' 46.3" N 85° 58' 34.4" E 22° 58' 44.0" N 85° 58' 32.9" E	Opencast	20139

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
28	Stone	Shri Pradip Kumar Jaiswal 0103373801	RUCHAP PLOT-622P KHATA-288	216 06.08.2013	1.030	07.05.2014	06.05.2024	Expired	Captive	Letter No. - 367, Order dt. 07 May 2014, valid upto 06 May 2024	Location-Ruchap Block-Saraikela 22° 58' 20.6" N 86° 02' 47.9" E 22° 58' 18.7" N 86° 02' 47.3" E 22° 58' 20.5" N 86° 02' 53.0" E 22° 58' 18.4" N 86° 02' 52.9" E	Opencast	267288

Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
29	Stone	Shri Dulal Nandi (0103373201)	RUTDIH PLOT-237,247P KHATA-132	25.02.2011	3.060	25.02.2011	24.02.2021	Expired	Captive	EC/SEIA/2015-16/1850/2015/2601, Order dt. 31 Dec 2015, Valid upto 04 Mar 2021	Location-Rutdih Block-Saraikela 22° 37' 31.55" N 86° 04' 32.83" E 22° 37' 17.04" N 86° 04' 28.13" E 22° 37' 29.51" N 86° 04' 33.30" E 22° 37' 16.74" N 86° 04' 30.80" E	Opencast	1100692
30	Stone	M/s G.V.R. Infra Project Ltd. (0103372104)	ULIDIH PLOT-07 KHATA-110	5712/5693 07.10.2010	2.97	07.10.2010	06.10.2020	Expired	Captive	2015-16/1197/2015/1821, Order dt. 23 Nov 2015, Valid upto 06.Oct 2020	Location-Ulidih Block-Saraikela 22° 34' 14.60" N 85° 55' 21.15" E 22° 37'	Opencast	136990

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						From	To						Ton
											32.20" N 85° 55' 25.54" E		
31	QUARTZITE	Shri Janak Raj Goyal (0103369501)	PATHSESAL PLOT-686P KHATA-170	02.06.2014	1.21	02.06.2014	01.06.2024	Expired	Captive	EC/SEIAA/2014-15/456/2014/849, Order dt. 17 Aug 2015, Valid upto 01 Jun 2021	Location-Patahesal Block-Saraikela 22° 42' 14.4" N 85° 52' 46.8" E 22° 42' 10.07" N 85° 52' 49.3" E	Opencast	269500
32	STONE	M/s Leading Construction (0103374201)	SOSOMULI PLOT NO - 132, KHATA NO - 93	2753 dt 01 Sep 2015	2.250	19.09.2015	18.09.2025	Working	Captive	EC/SEIAA/2015-16/894/2015/1290 Order dt. 17 Aug 2015, Valid upto 16 Aug 2025	Location-Sosomuli, 22°41'21.58" N 86°07'8.6" E 22°41'16.10" N 86°07'9.73" E	Opencast	1220049

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						From	To						Ton
33	Stone	M/s Leading Construction (0103616002)	RAYDIH PLOT-117 KHATA-37	1888/1792 30.12.2016	2.160	17.08.2017	16.08.2027	Working	Captive	EC/DEIAA/SARAIKELA/2016-17/28, Order dt. 17 Oct 2016, Valid upto 16 Aug 2027	Location- Raidih Block- Saraikela 22° 41' 21.58" N 86° 07' 8.6" E 22° 41' 16.10" N 86° 07' 9.73" E 22° 41' 20.10" N 86° 07' 20.10" E 22° 41' 14.52" N 86° 07' 11.05" E	Opencast	2960634
34	Stone	M/s Raja Minerals (0103370701)	BARATAGRANI PLOT-01P KHATA-102	4954/4937 04.09.2010	1.214	04.09.2010	03.09.2020	Expired	Captive	SARAIKELA/2017-18/06/DEIAA	Location - Bara Tengrani Block - Saraikela 22° 40' 55.67" N 85° 54' 23.51" E	Opencast	121596

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						From	To						Ton
35	Stone	M/s Madhucon Projects Limited (01030370 01)	SERENGDIH PLOT-10P KHATA-86	2827/2744 16.03. 2017	3.240	16.06. 2017	15.06. 2019	Expired	Captive	Letter No - 93 dt. 17.05.2013	Location - Serengdih Block - Icha Garh 22° 39' 56.71" N 86° 09' 47.08" E 22° 39' 55.12" N 86° 09' 52.18" E	Opencast	300000
36	Stone	M/s Singhdeo Minerals (01030522 01)	BARGAON PLOT-142 A	295 29.02. 2016	2.430	23.11. 2015	28.02. 2026	Working	Captive	EC/SEIAA/15-16/1381/2015/1807, Order dt. 23 Nov 2015, Valid upto 28 Feb 2026	Location - Badagaon Block - Kharsawan 22° 46' 50.2" N 85° 53' 28.7" E 22° 46' 50.2" N 85° 53' 25.5" E	Opencast	472678

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						From	To						Ton
37	Quartzite	Rajashri Pati (0103515301)	JAIKAN PLOT-1304 KHATA-141	27.01.2016	1.34	27.01.2016	26.01.2026	Working	Captive	EC/SEIAA/2015-16/976/2015/1621, Order dt. 30 Sep 2015, Valid upto 26 Jan 2026	Location - Jaikan Block - Gamharia 22° 42' 49.74" N 86° 06' 45.49" E 22° 42' 46.08" N 86° 06' 47.21" E	Opencast	69615
38	Stone	Shri Sunil Kumar Mandal Shri Rakesh Kumar Jaiswal (0103374101)	BDA KUNDABERA PLOT-24P KHATA-251	20.06.2014	2.020	20.06.2014	19.06.2024	Expired	Captive	EC/SEIAA/15-16/1753/2015/2489, Order dt. 31 Dec 2015, Valid upto 19 Jun 2024	Location - Bada Kunabera Block - Rajnagar 22° 42' 47.94" N 86° 05' 38.88" E 22° 42' 41.80" N 86° 05' 40.50" E	Opencast	123926

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						From	To						Ton
39	Stone	Triveni Engicons Pvt Ltd 01031118001	BALRAMPUR PLOT-1028	16.12.2016	1.540	17.10.2016	15.12.2026	Non-Working	Captive	EC/DEIAA/SKL/2016/17/29/DEIAA, Order dt. 17 Oct 2016 Valid upto 15 dec 2026	Location - Baliyasai Block - Rajnagar N - 22°41'26.06" To 22°41'32.13" E - 86°07'24.60" To 86°07'30.02"	Opencast	373400
40	Stone	ABS Enterprises (0103692701)	BDA KUNDABERA PLOT-1837,1885 KHATA-252	01.05.2016	2.173	01.06.2016	31.05.2021	Expired	Captive	EC/SEIAA/15-16/1439/2015/2251 dt. 30/12/2015	Location - Barakunabera Block - Rajnagar 22° 41' 55.37" N 86° 06' 20.87" E 22° 41' 46.30" N 86° 06' 26.52" E	Opencast	266156

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						From	To						Ton
41	Stone	M/s Shaping Mines and Minerals Pvt. Ltd.	BHURKULI PLOT-431 KHATA-77	21.01.2017	1.680	21.01.2017	20.01.2022	Expired	Captive	EC/SEIAA/2014-15/373/2014/851 Order dt. 30 Apr 2015 Valid upto 22 Jan 2022	Location - Bhurkuli Block - Rajnagar 22° 35' 24.3" N 85° 56' 57.3" E 22° 35' 18.1" N 85° 57' 00.5" E	Opencast	853824
42	Quartzite	Shri Pradeep Singh (0103253601)	CHHOTA KUNDABERA PLOT-84 KHATA-98	2050/1945 17.08.2017	2.752	21.03.2017	18.09.2027	Working	Captive	EC/DEIAA/SKL/2016-17/52, Order dt. 21 Mar 2017, Valid upto 18 Sep 2027.	Location - Chota Kunabera Block - Rajnagar 22° 42' 38.05" N 86° 6' 53.81" E	Opencast	331328
43	Stone	Shri Ajit Pradhan (0103374001)	MAGHWAON GAMRIA PLOT-140,438 KHTA-32,201	281/269 15.04.2013	1.42	15.04.2013	14.04.2023	Expired	Captive	EC/SEIAA/2014-15/688/2015/1270, Order dt. 11 Aug 2015, Valid upto 13 Apr 2023	Location- Gamharia and Majhgaon Block- Rajnagar N 22°37'55"	Opencast	204131

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						From	To						Ton
											E 86°03'71" N 22°37'55" E 86°03'71"		
44	Stone	M/s M.K metals and Minerals 01033733301	MUCHIASAI PLOT-247P KHATA-167	20.10.2017	3.500	20.10.2017	18.02.2021	Expired	Captive	EC/DEIAA/SKL/2016-17/30/DEIAA, Order dt. 17 Oct 2016, Valid upto 18 Feb 2021.	Location-Muchiasai Block-Rajnagar 22° 34' 46.60" N 86° 5' 56.21" E	Opencast	1202607
45	Pot Stone	Shree Sai Minerals (01031086 01)	MURUNMDIH PLOT-926	2207/2099 14.08.2017	0.790	21.03.2017	18.09.2027	Working	Captive	EC/DEIAA/SARAIKELA/2016-17/49, Order dt. 21 Mar 2017, Valid upto 18 Sep 2027.	Location-Murumdih Block-Rajnagar 22° 37' 28.95" N 85° 59' 33.02" E	Opencast	73910
46	Stone	Shaligram Infrastructures Pvt Ltd 010348690 1	RAVANKOCHA PLOT-491P	22.07.2016	2.27	27.07.2015	21.07.2026	Working	Captive	EC/SEIAA/2015-16/714/2015/1152, Order dt. 27 July 2015,	Location-Rabankocha Block-Rajnagar	Opencast	491239

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						From	To						Ton
											22° 35' 49.12" N 86° 1' 46.16" E		
47	Stone	M/s K.K. Builders Pvt. Ltd.	TANGJORA PLOT-1042P KHATA-127	20.09.2015	4.586	20.09.15	19.09.20	Expired	Captive	EC/SEIAA/2014-15/625/2015/863, Order dt. 01 May 2015 Valid Upto 30 Apr 2025	Vill-Tangarjora Block-Rajnagar 22° 40' 28.50" N 86° 7' 21.32" E	Opencast	2857475
48	Stone	MATA ENTERPRISES 0103406203	CHHOTA TANGRANI PLOT-52,74,142	2732 05.12.2016	1.940	11.09.2017	10.09.2027	Working	captive	EC/DEIAA/16-17/48 21.03.17	N 22°41'19.40" to N 22°41'24.40" E 85°54'24.20" to E 85°54'32.20"	Opencast	1222223
49	STONE	Aarohi Impex & Trade Links	TENTOPSI PLOT-1112P	444/G 02.03.21	1.820	28.03.2023	31.08.2025	Working	captive	EC/SEIAA/242 DT-09.09.22	22° 43,25.25" N 86° 01' 40.28" E	Opencast	1262495

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						From	To						Ton
50	Quartzite	SANDEEP KARMAKAR	CHHOTATANGRANI PLOT-84P	959 18.08.17		07.11.2017	06.11.2027	Working	captive	EC/DEIAA/26 DT 07.04.18	22° 43,45.32" N 86° 06' 55.08" E	Opencast	52904
51	SOAPSTONE	GANGA ENGINEERING	BRAHMANDANGRI PLOT-2,34 KHATA-1,10	14 06.01.23	31.360	16.03.2005	15.03.2025	Working	captive	EC/SEIAA/366 DT-02.11.23	22° 43,8.204" N 86° 08' 35.837" E	Opencast	695506
52	STONE	M/S Bimaldeep Infrastructure Pvt.Ltd.	BANDUWA PLOT NO - 408 & 409,	LETTER NO-679/M, DT 21.03.2016	16.81	04.05.2016	03.05.2026	Non-Working	captive	EC/SEIAA/2015-16/1061/2015/1717 DT- 26.10.2015	N 22°36'56.4" To N 22°36'51.7" E 85°55'27.5" To E 85°55'29.2"	Opencast	13548465
53	STONE	Triveni Engicons Pvt Ltd	UPERSILA, PLOT NO-01(P)	LETTER NO-2355/M, DT 07.10.2016	6.05	22.11.2016	21.11.2026	Non-Working	captive	EC/SEIAA/2015-16/1837/2015/2576, DT- 31.12.2015	22°36'52.11" To 22°36'45.84" 85°55'20.52" To 85°55'29.54"	Opencast	1520036

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						From	To						Ton
54	STONE	RAJSWARI MINERALS	DOLADIH, PLOT NO - 280(P)	LETTER NO-2020/M, DT 05.08.2016	5.08	27.09.2016	26.09.2026	Non-Working	captive	EC/SEIAA/2015-16/1892/2015/2487 DT- 31.12.2015	22°37'11.95" to 22°38'00.00" 85°55'40.36" to 85°55'28.50"	Opencast	3208629
55	STONE	BALAJI MINERALS	CHOTABANA, PLOT NO-587(p)	LETTER NO-2358/M, DT 13.10.2016	5.26	30.12.2016	29.12.2026	Non-Working	captive	EC/SEIAA/2015-16/1891/2015/2490 DT- 31.12.2015	22°37'59.34" to 22°37'48.16" 85°55'40.36" to 85°55'29.19"	Opencast	2628004
56	STONE	SRI VARUN MUNDHRA	MUDKUM, PLOT NO - 1588(P)	LETTER NO-2822/M, DT 19.09.2015	3.63	04.10.2015	03.10.2025	Non-Working	captive	EC/SEIAA/2014-15/493/2014/837 DT-30.04.2015	N 22°37'44.6" to N 22°37'50.01" E 85°53'59.1" to E 85°54'11.7"	Opencast	1223254
57	STONE	Triveni Engicons Pvt Ltd	MUDKUM, PLOT NO - 1588(P) & 630(P)	LETTER NO-715/M, DT	3.46	04.05.2016	03.05.2026	Non-Working	captive	EC/SEIAA/2015-16/1823/2015/2578. DT- 31.12.2015	22°37'49.21" to 22°37'56.89" 85°53'22.52	Opencast	604430

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						From	To						Ton
				28.03.2016							" to 85°53'40.28"		
58	STONE	M/s Premium Infra Logistics private Limited	PUHA, PLOT NO-253(P)	LETTER NO-592/M, DT 11.03.2016	5.27	30.04.2016	29.04.2026	Non-Working	captive	EC/SEIAA/2014-15/639/2015/897. DT- 01.05.2015	22°37'45.71" to 22°37'53.41" 85°53'27.19" to 85°53'40.28"	Opencast	2899214
59	STONE	M/S LORDS INFRACON PVT.LTD.	BANA, PLOT NO-115	LETTER NO-1074(A)/M, DT 22.09.2017	1.73	16.11.2017	15.11.2027	Non-Working	captive	EC/DEIAA/SARAIKELA/2017-2018/88, Order dt. 28.08.2017	N 22°42'26.04" To N 22°42'33.71" E 86°02'59.97" To E 86°03'04.78"	Opencast	525268.4
60	STONE	M.S LOYAL CONSTRUCTORS PVT.LTD.	BANA, PLOT NO-84	LETTER NO-1076(C)/M, DT	1.299	16.11.2017	15.11.2027	Non-Working	captive	EC/DEIAA/SARAIKELA/2017-2018/89, Order dt. 28.08.2017	N 22°42'30.09" To N 22°42'34.93" E 86°03'04.83" To	Opencast	375569.71

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						From	To						Ton
				22.09.2017							E 86°03'09.68"		
61	STONE	RAMLAL SINGH & SONS	BANA, PLOT NO-720	LETTER NO-1079(D)/M, DT 22.09.2017	0.90	16.11.2018	15.11.2028	Non-Working	captive	EC/DEIAA/SARAIKELA/2017-2018/90/DEIAA Order dt. 28.08.2017	N 22°42'19.69" To N 22°42'25.51" E 86°03'09.98" To E 86°03'12.63"	Opencast	230649.93
62	Quartzite	M/s Chanduka Minerals and chemicals pvt ltd	KUORDA & CHERIAPAHARI	LETTER NO-592/M, RANCHI, DT 26.03.2012	14.92	26.03.2012	12.03.2032	Non-Working	captive	NA	NA	Opencast	
63	PYROXENITE	M/S JAGANNATH CEMENT WORKS-PVT.LTD.	MAHARJGANJ	LETTER NO-1575/M, RANCHI, DT	15.57	20.12.2004	18.12.2024	Non-Working	captive	NA	NA	Opencast	

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						From	To						Ton
				06.12.2004									
64	PYROXENITE	M/S MATAGI ENTERPRISES PVT.LTD.	ROLA		9.94	21.06.2006	19.06.2026	Non-Working	captive	NA	NA	Opencast	
65	STONE	SHRI PADM LOCHAN MAHATO & SHRI SITARAM MAHATO	CHHOTA AMRA	LETTER NO-512/M, DT 27.07.2023	0.047	28.07.2023	27.07.2033	Non-Working	captive	EC/SEIAA/2022-23/2634/2022/254, DT 02.09.2022	23°00'48.5" to 23°00'52"4, 85°54'56.1" to 85°55'1.35"	Opencast	124480.8
66	STONE	Triveni Engicons Pvt Ltd	BALIYASAI, PLOT NO - 74 & 76	LETTER NO-2624/M, DT 19.11.2016	3.90	16.12.2016	15.12.2026	Working	captive	EC/DEIAA/SARAIKELA/2016-2017/29/DEIAA Order dt. 17.10.2016	22°38'09" to 22°38'26"86°02'36" to 86°02'47"	Opencast	224330.63
67	STONE	Kolhan Infrastructure and Mining Pvt. Ltd.	TANGJORA PLOT-820(p), 846(p), 817, 819, 844, 845 & 847,	LETTER NO-238/M, DT	3.07	08.04.2023	07.03.2028	Working	captive	EC/SEIAA/2023-24/2918/2023/302 DT 06 Oct 2023 Valid Upto07 Apr 2028	22°39'58.15" to 22°40'08.27,N 86°07'16.99" to	Opencast	98260

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						From	To						Ton
				20.04.2023							86°07'25.01"		
68	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	RUDIYA PLOT NO - 2381(p), 2382, 2383 & 2384 & KATIYA POLT NO - 05, 08 & 09	LETTER NO-862/M, DT 24.11.2022	1.50	05.12.2022	02.02.2032	Working	captive	ECSEIAA/2022-23/2635/2022/245 DT 02.09.2022	22°55'05.98" N to 22°55'10.06" N 86°01'53.95" E to 86°02'01.24" E	Opencast	335189.95
69	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	UGMA , PLOT NO - 207, 208(p) & 219(p),	LETTER NO-2165/2057 DT 13.11.2017	2.15	19.09.2017	18.09.2027	Working	captive	EC/DEIAA/SARAIKELA/2016-17/50 DT 21.03.2017	N 22°43'30.20" to N 22°43'37.57" E 86°02'0.80" to E 86°02'11.47"	Opencast	40693.73
70	STONE	bhagwati stone crusher (0103370602)	MEDKI PLOT- 703P	LETTER NO-2401/2285 DT 16.11.2017	1.65	12.09.2017	11.09.2027	Working	captive	EC/SEIAA/2023-24/2792/2023/56 DT 02.05.2023	22°36'11.30" N 85°54'54.18" E 22°36'14.54" N 85°55'04.37" E	Opencast	84423.13

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working /Non Working/ Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve
						From	To						Ton
71	STONE	SHRI ARUN KUMAR TUDU (0103244701)	CHOTALAKHA PLOTNO-1745, 1746 & 1747,		1.22	25.07.2022	30.06.2025	Working	captive	EC/SEIAA/2021-22/2472/2021/09 DT 16.04.2022	22°54'56.69" to 22°55'01.50" 86°04'20.41" to 86°04'24.99"	Opencast	35000.34
												Total	**86293844**

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3 GENERAL PROFILE OF THE DISTRICT

3.1 Introduction

Seraikela-Kharsawan district has been created on 1st April 2001 as the 21st district of Jharkhan. Previously it was part of Pashchimi Singhbhum district. It is situated in south-east of the state. The geographical area of the district is 2557 sq. km.

The district is situated between longitudes 85°30'14" & 86°15'24" and latitude 22°29'26" & 23°09'34" . The district shares border with East Singhbum district to the east, West Singhbhum district to the south and Purulia district to the north. It shares border with West Bengal state to the east. Seraikela Kharsawan district comprises of two subdivisions namely Seraikela and Chandil and nine blocks/circles namely Seraikela, Kharsawan, Gamharia, Rajnagar, Kuchai, Chandil, Ichagarh, Nimdih and Kukru.

The soil of Seraikela is vibrant with the rhythm of "Chhau" which fancied the imaginations of not only Indian art lovers, but also allured and captivated art lovers across the world, due to its grace unique charm and grandeur. Surrounded by lush green forests, hillocks, serpent like rivers and rivulets, Seraikela Town is situated on the bank of Kharkai River. The district has not only a rich cultural heritage but also has large deposits of minerals like Kyanite, Asbestos, quartz etc. and other valuable minerals.

The district also includes the Adityapur Industrial Area which is one of the biggest industrial areas in Asia. Its development in Bihar was lackadaisical but after formation of Jharkhand state it has been made a district and many development plans have been started to strengthen its economic structure. Titirbilla bridge on the road joining Seraikela Rajnagar, the bridge on Tikar River at Ichagarh, causeway at Shakha river outlines the developing steps of the district.

(Source – Saraikela-Kharsawan.nic.in)

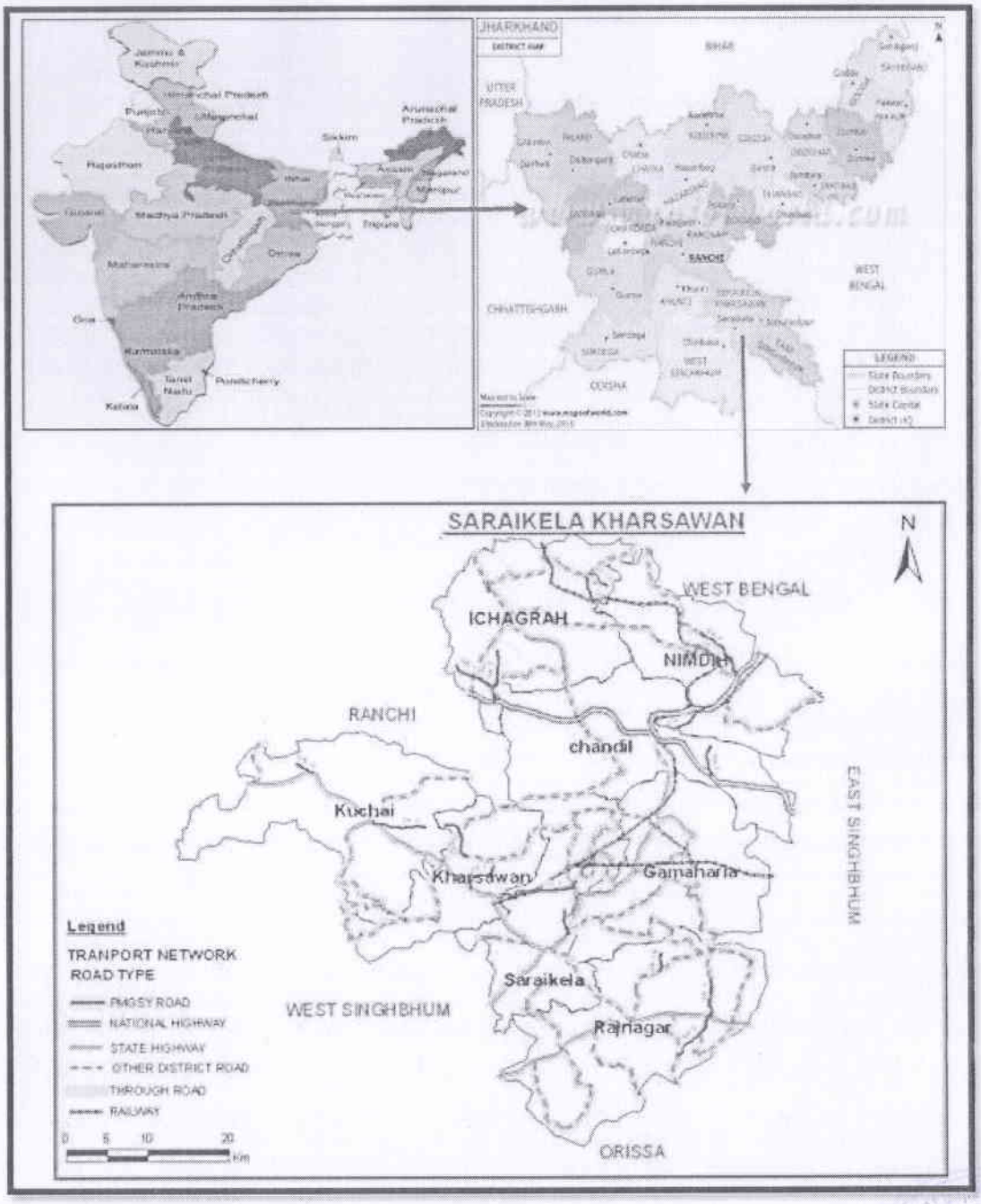

Figure 3-1:- Location map of Saraikela-Kharsawan district, Jharkhand

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3.2 Administrative Setup of District

The district of Seraikela-Kharsawan possesses 2 subdivisions, viz., 1. Seraikela and 2. Chandil spread over 9 C.D. Blocks and 2 statutory towns and 5 census towns. The district is in Kolhan division which is in turn, under Jharkhand state (which has five divisions,

e.g. North Chotanagpur, South Chotanagpur, Santhal Pargana, Palamu and Kolhan and was come out from erstwhile Bihar state on 15th November, 2000). There is total number of 1184 villages in the district including 38 un-inhabited villages.

The administrative units of the district are as below:

SL No.	Name of Sub -Division	Name of C.D. Blocks	Total Area (in sq km)
1	Seraikela	Kuchai	386.2
		Saraekela	268.53
		Kharsawan	226.52
		Adityapur(Gamharia)	304.51
		Gobindpur (Rajnagar)	458.86
2.	Chandil	Chandil	375.68
		Ichagarh	271.82
		Kukru	136.81
		Nimdih	234.92

(Source: seraikela.nic.in)

The district administration is headed by the Deputy Commissioner. He belongs to I.A.S. cadre. He is assisted by a lot of officers mostly belonging to officials of Jharkhand Public Service Commission. Police Administration is looked after by the superintendent of the police (S.P.). He is also assisted by no. of police officers like Assistant Superintendents of Police, Deputy Superintendent of Police, Inspector of Police, etc.

Administrative Setup of Seraikela-Kharsawan Includes:

- Collectorate
- Subdivision
- Blocks
- Panchayats

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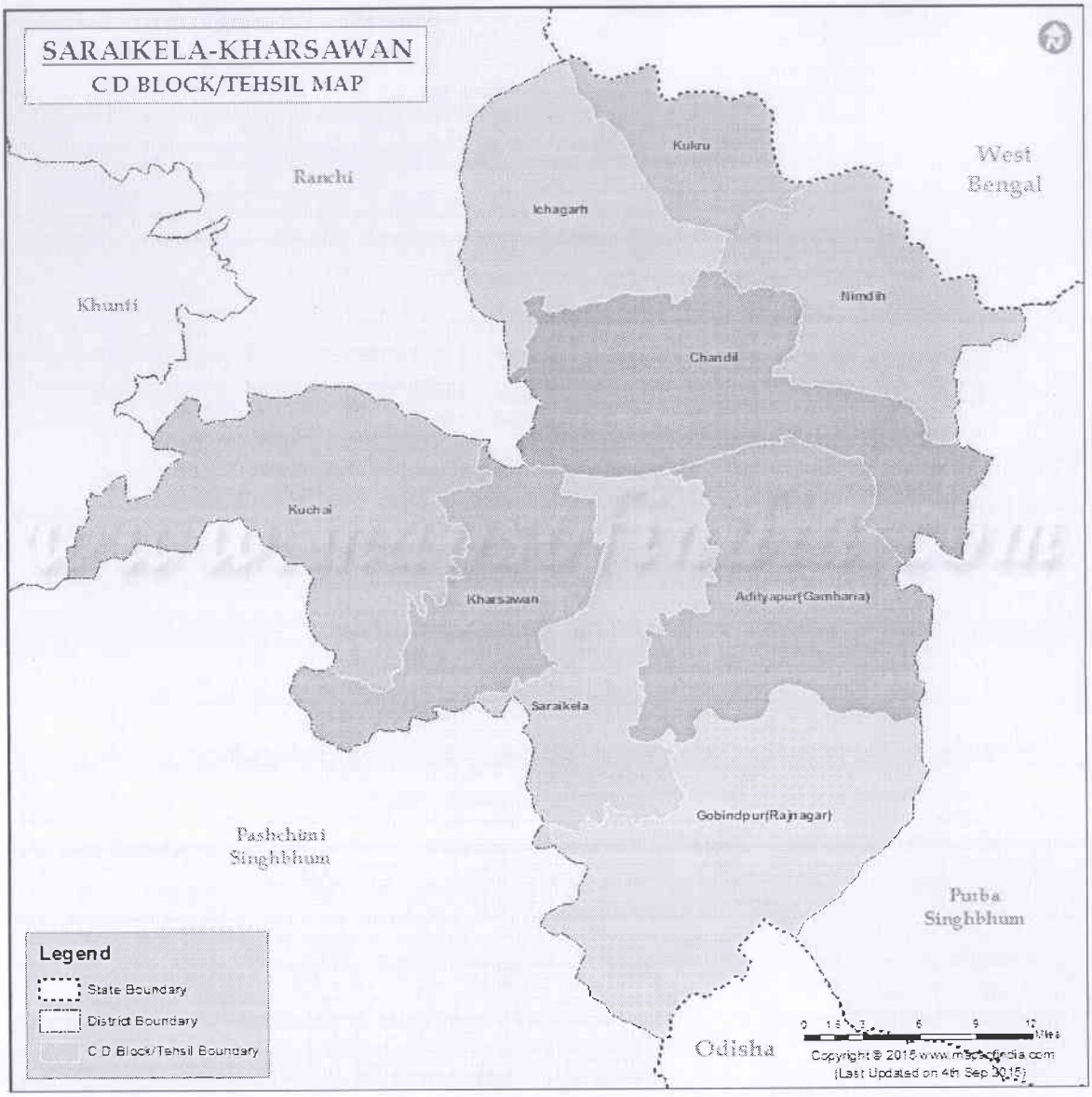

Figure 3-2:- Block map of Saraikela-Kharsawan District, Jharkhand

3.3 Topography

A geographical area of the Saraekela is 2725 sq. km. The district comprises two subdivision (Saraikela and Chandil) and eight development blocks viz. Govindpur, Adityapur, Saraikela, Kharsawan, Kuchai, Idhagarh, Chandil and Nimdih. Saraekela district comes in 220 29' 26" and 23009'34" N latitude and 850 30'14"and 86015'24" E longitude. Height from Sea-level is 243.93 Mts of Saraekela. The district comes under Survey of India toposheets (73E/16, 73F/9, 10, 13, 14, 15, 73I/4,8 and 73J/1,2).

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3.4 Demography

According to the 2011 census Saraikela Kharsawan district has a population of 1,065,056, roughly equal to the nation of Cyprus or the US state of Rhode Island.This gives it a ranking of 428th in India (out of a total of 640). The district has a population density of 390 inhabitants per square kilometer. Its population growth rate over the decade 2001-2011 was 25.28%. Saraikela Kharsawan has a sex ratio of 958 females for every 1000 males, and a literacy rate of 68.85%. 35.2% of the population is from Scheduled Tribes and 5.3% from Scheduled Castes.

At the time of the 2011 Census of India, 44.01% of the population in the district spoke Bengali, 15.62% Santhali, 9.65% Ho, 9.48% Odia, 6.98% Hindi, 4.76% Mundari, 2.85% Kurmali,2.83% Urdu, 2.7% Bhojpuri and 1.05% Maithili as their first language.

Table 3-1:- Population of Saraikela-Kharsawan, Jharkhand

Distribution of Rural and Urban Population by sex in the district of Saraikela-Kharsawan

(Number)

Sub-Division /	Rural Population			Urban Population			Total Population		
C.D.Block / M.C. / M	Male	Female	Total	Male	Female	Total	Male	Female	Total
Kuchai	32443	31877	64320	0	0	0	32443	31877	64320
Kharsawan	45001	43641	88642	0	0	0	45001	43641	88642
Saraikella	36649	36476	73125	3340	3042	6382	39989	39518	79507
Rajnagar	67810	68790	136600	0	0	0	67810	68790	136600
Gamharia	60995	58060	119055	8272	7390	15662	69267	65450	134717
Chandil	56163	53691	109854	24837	23258	48095	81000	76949	157949
Nimdih	40327	38312	78639	0	0	0	40327	38312	78639
Ichagarh	42391	40708	83099	0	0	0	42391	40708	83099
Kukru	27069	25907	52976	0	0	0	27069	25907	52976
Nagar Nigam Adityapur	0	0	0	91664	82691	174355	91664	82691	174355
Nagar Panchayat Seraikela	0	0	0	7450	6802	14252	7450	6802	14252
District Total	408848	397462	806310	135563	123183	258746	544411	520645	1065056

Source : Census of India, 2011

Table 3-2:- Demography Details of Saraikela-Kharsawan District

SL NO	Indicator	Saraikella-Kharsawan	Jharkhand	Source	Year
1	Population	1,065,056	32,988,134	Census Of India	2011
2	Male	544,411	16,930,315	Census Of India	2011
3	Female	520,645	16,057,819	Census Of India	2011
4	Rural	806310	25055073	Census Of India	2011
5	Urban	258746	7933061	Census Of India	2011
6	SC Population	56195	3985644	Census Of India	2011
7	SC Population Male	28243	2043458	Census Of India	2011

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8	SC Population Female	27952	1942186	Census Of India	2011
9	ST Population	374642	8645042	Census Of India	2011
10	ST Population Male	187149	4315407	Census Of India	2011
11	ST Population Female	187493	4329635	Census Of India	2011
12	Population Growth Rate,2001-11 (%)	25.47%	22.42%	Census Of India	2011
13	Child Population(0-6 Years)	159,596	5,389,495	Census Of India	2011
14	Child Population (0-6 Years)to Total Population (%)	14.98	16.33	Census Of India	2011
15	Sex Ratio (Female per 1000 Males)	956	949	Census Of India	2011
16	Sex Ratio at Birth,Total	958	930	AHS	2012-13
17	Sex Ratio at Birth, Rural	972	943	AHS	2012-13
18	Sex Ratio at Urban	909	884	AHS	2012-13
19	Child Sex Ratio (0-6 years; Girls Per 1000 boys)	943	948	Census Of India	2011
20	Gross Enrolment Ratio (Primary)	84.6	155.8	DISE	2010-11
21	Crude Birth Rate, Total (Per 1000	23.7	23	AHS	2012-13
22	Crude Birth Rate, Rural (Per 1000)	—	24.3	AHS	2012-13
23	Crude Birth Rate, Urban (Per 1000)	—	19.4	AHS	2012-13
24	Crude Death Rate, Total (Per 1000)	—	6	AHS	2012-13
25	Crude Death Rate, Rural (Per 1000)	—	6.4	AHS	2012-13
26	Crude Death Rate, Urban (Per 1000)	—	5.7	AHS	2012-13
27	Total Fertility Rate	3.1	2.7	AHS	2012-13
28	Wealth Index-Lowest (20%)	—	20	AHS	2010-11
29	Wealth Index-Highest (20%)	—	20	AHS	2010-11
30	Work Participation Rate (15 Years and above)	—	45.7	AHS	2010-11

(Source - https://seraikela.nic.in/demography/)

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3.5 Connectivity in Saraikela-Kharsawan District

Seraikela-Kharsawan is a small town. It is connected with road to the neighbouring city. Also, Seraikela-Kharsawan is connected with neighbouring cities such as Ranchi, Tatanagar (Jamshedpur) through railway line. The district of Seraikela is well served by a network of roads. The roads are classified as the National Highways, State Highways, Major district roads and other district roads. They are maintained by the Public works Department, the Rural Engineering Organisation, the Zila Parishad and Municipalities.

By Air

Nearby Airports are

1. Netaji Subhash Chandra Bose International Airport, Kolkata, West Bengal
2. Birsa Munda International Airport, Ranchi, Jharkhand

Seraikela to Dumdum (Kolkata) – 247 Kms.

Seraikela to Ranchi- 135 Kms.

By Rail

The nearest railway station is Sini Junction.

Sini to Tatanagar Junction (Jamshedpur) – 37 Kms

Sini to Adityapur – 34.1 Kms

Sini to Chaibasa – 34.2 Kms

Sini to Ranchi – 129.3 Kms

By Road

Seraikela to Sini – 13.2 Kms

Seraikela to Jamshedpur – 42.3 Kms

Seraikela to Ranchi – 133.5 Kms

Seraikela to Chaibasa – 23.2 Kms

Seraikela to Kolkata – 308.7 kms (via NH16).

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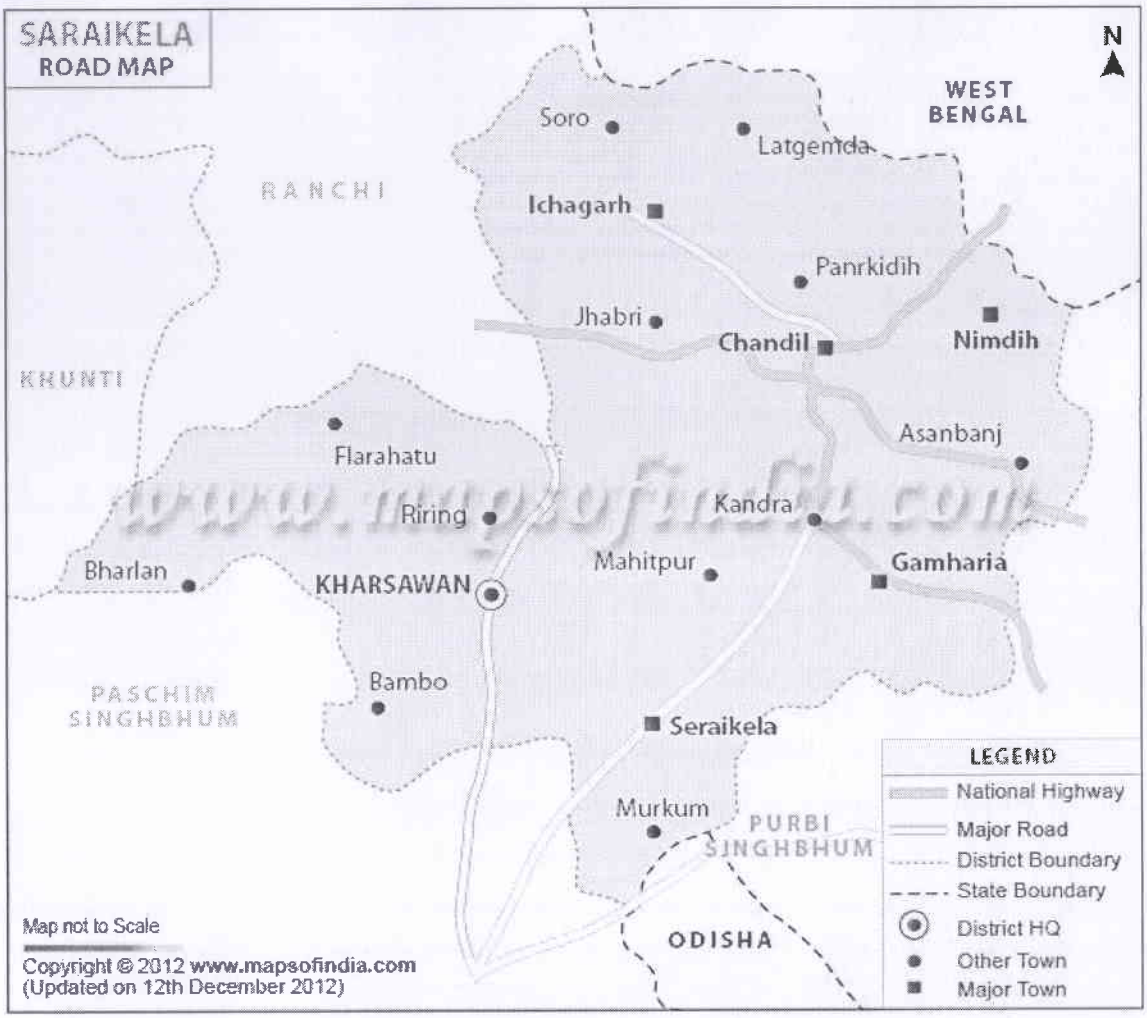

Figure 3-3:- Road Map Saraikela-Kharsawan District

(Source: https://www.mapsofindia.com/maps/jharkhand/railways/saraikela.htm)

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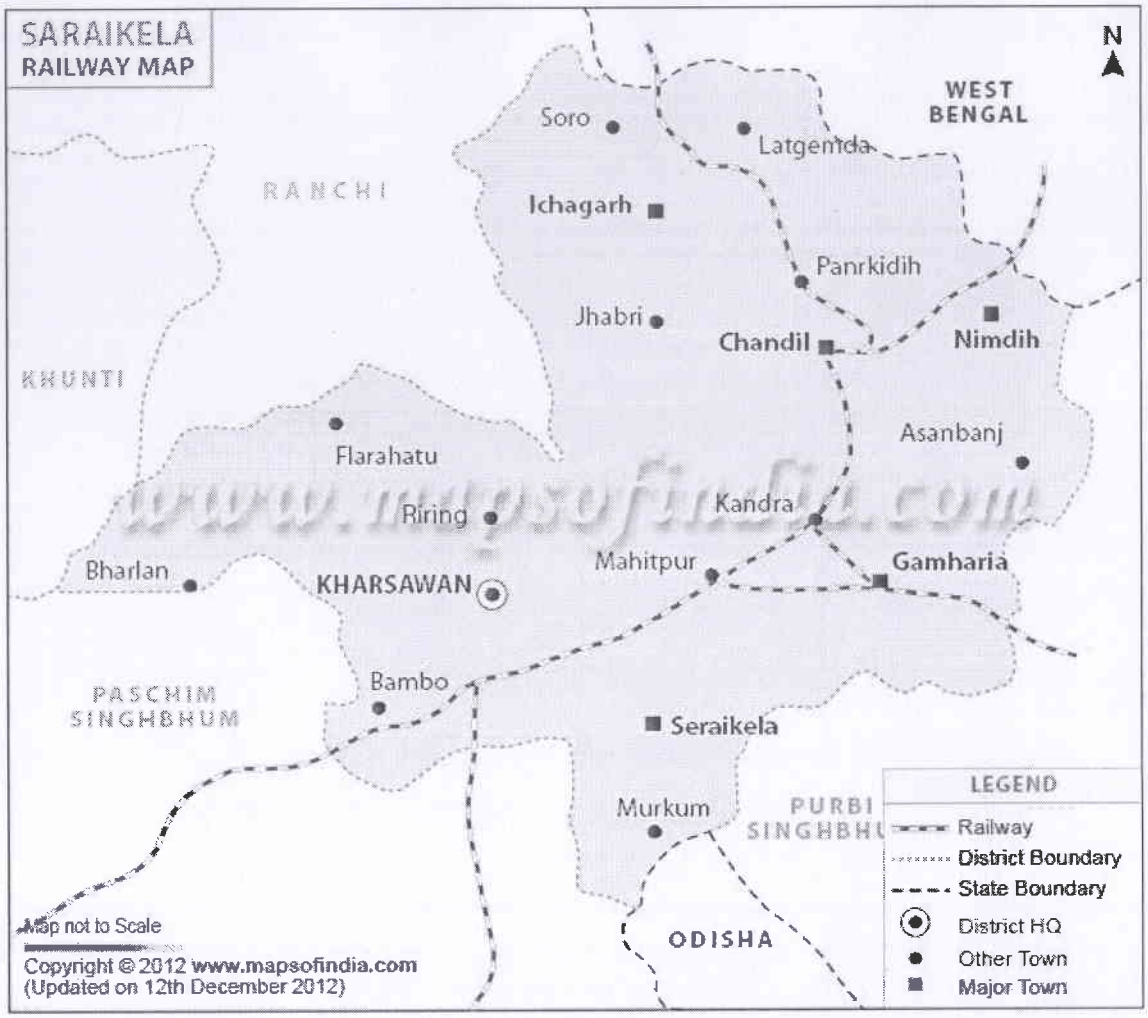

Figure 3-4:- Railway Network Map Saraikela-Kharsawan District

(Source: https://www.mapsofindia.com/maps/jharkhand/railways/saraikela.htm)

3.6 Floods in district Saraikela-Kharsawan

The district is drained by the Subarnrekha and Kharkhai river. The general trend of the drainage is from NW-SE.and SW-SE. The structural features particularly the foliation and joints exert profound impact upon the drainage and control the drainage pattern of the district.

Distribution of the vulnerable and less vulnerable flood prone districts are shown in the below figure no. 4.5.

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Map 1.1: Multi hazard prone Area in Jharkhand

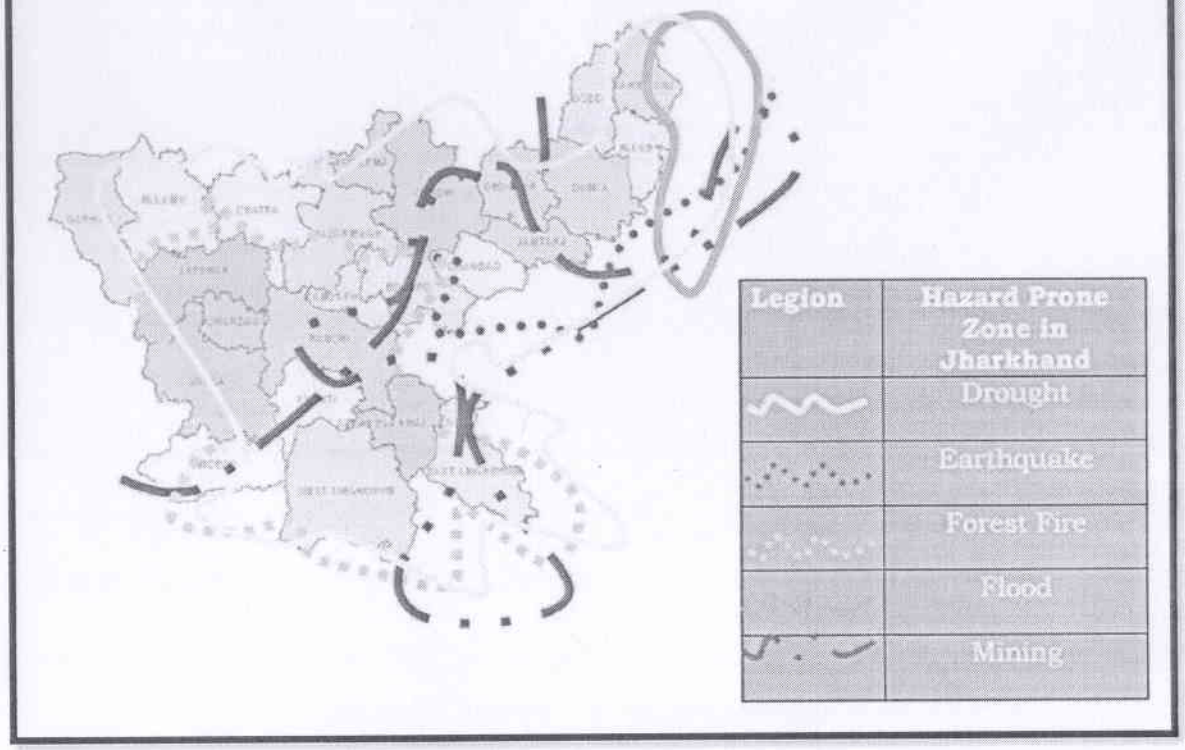

Figure 3-5:- Multi hazard prone area in Jharkhand.

From the above information, it is being observed that, Saraikela-Kharsawan is non-flood prone district of Jharkhand.

3.7 Seismicity

As per Seismicity Zonation map, 3 types of Zones have been observed in Jharkhand. Saraikela-Kharsawan comes under India's seismic zone-III.

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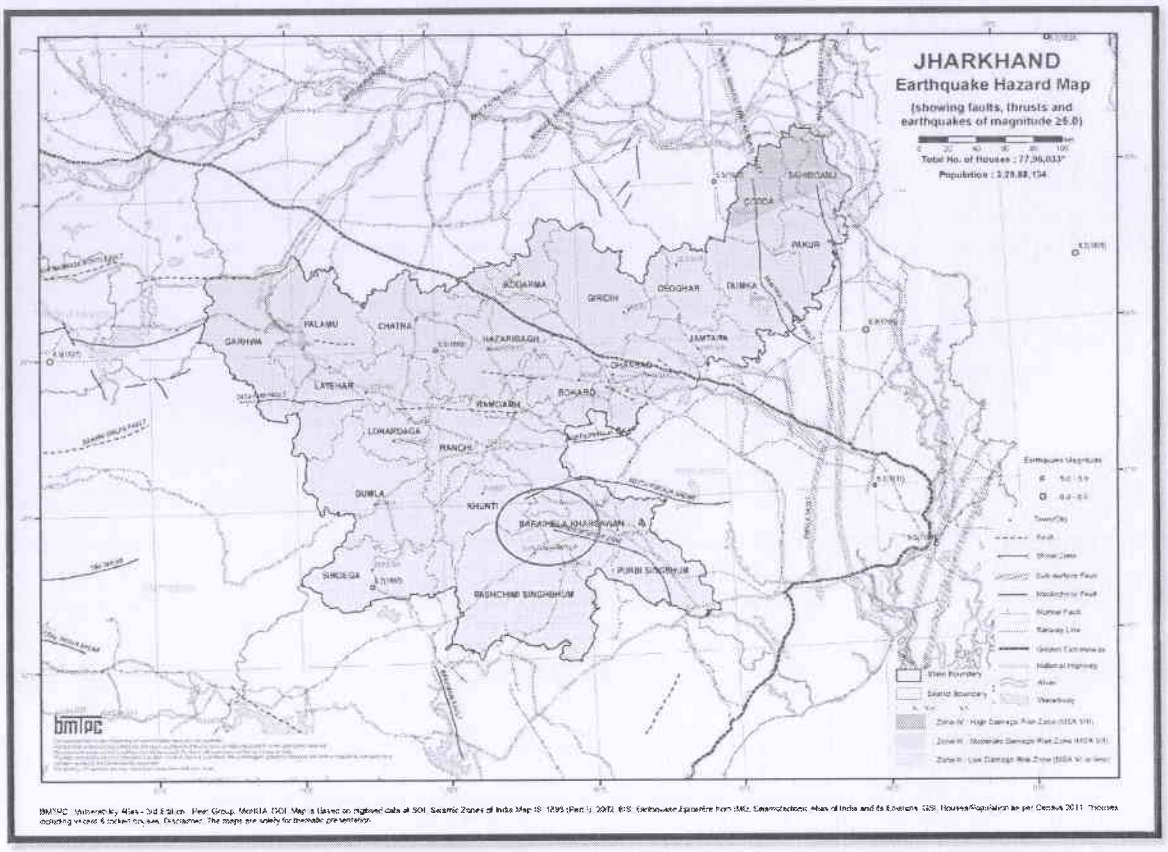

Figure 3-6:- Jharkhand Earthquake Map

3.8 Flora

The buzzing diversity of flora and fauna gives us a view of nature at its best. The Dalma wild life sanctuary is located in the Dalma forest area between Saraikela and Chandil is a treat to the eyes.

The major forest trees are Sal (Shorea robusta), Aglaia, Schleichera, Paisar ptercocarpus schleichera, Schrebera, Asna (Terminalia tomentosa), Shisu (Dalbergia latifolia), Kend (Diospyros melanoxylon), Bengal ebony, bahera (Terminalia belerica), Karam (Adina cordifolia), bel (Aegle marelos), salai (Boswellia serrata), mahua (Bassia latifolia), sanjina (Moringa pterygosperma), neem (Melia indica),banyan (Ficus indica), peepal (Ficus religiosa), tamarind(Tamarindus indica), kathal (Artocarpus integrifolia), bamboo (Dendrocalamus strictus).

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Table 3-3:- Floral species of Saraikela District

S. No.	Scientific Name	Local/Common Name	Family
		Tree/Plant	
1	*Aphanamixis polystachya*	Pithraj Tree	Meliaceae
2	*Aegle marmelos*	Bel	Rutaceae
3	*Anogeissus latifolia*	Dhaura	Combretaceae
4	*Accacia Catechu*	Khair	Mimosaceae
5	*Ailanthus excelsa*	Ghorkaranj/Ghorkaram	Simaroubaceae
6	*Acacia arabica*	Babul	Fabaceae
7	*Artocarpus heterophyllus*	Jackfruit	Moraceae
8	*Azadirachta indica*	Neem	Meliaceae
9	*Albizzia lebbek*	Siris	Fabaceae
10	*Adina cordifolia*	Haldu	Rubiaceae
11	*Acacia auriculiformis*	Auri	Fabaceae
12	*Bauhinia tomentosa*	Kachnar	Caesalpiniaceae
13	*Boswellia serrata*	Salai	Burseraceae
14	*Buchanania lanzan*	Piar	Anacardiacea
15	*Butea monosperma*	Palash	Fabaceae
16	*Bombax ceiba*	Semal	Malvaceae
17	*Butea monosperma*	Bastard teak	Fabaceae
18	*Buchanania latifolia*	Chironji	Anacardiaceae
19	*Cassia fistula*	Amaltas	Fabaceae
20	*Cordia Macleodii*	Belwanjan	Boraginaceae
21	*Cassia siamea*	Kassod tree	Fabaceae
22	*Diospyros melanoxylon*	Kendu	Ebenaceae
23	*Diospyros Montana*	Bombay Ebony	Ebenaceae
24	*Dalbergia sissoo*	Shisham	Fabaceae
25	*Ficus racemosa*	Gular	Moraceae

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S. No.	Scientific Name	Local/Common Name	Family
26	*Ficus benghalensis*	Bargad	Moraceae
27	*Ficus religiosa*	Pipal	Moraceae
28	*Gmelina arborea*	Gamhar	Verbinaceae
29	*Grewia tiliifolia*	Dhaman	Malvaceae
30	*Lannea coromandelica*	Jhingam	Anacardiaceae
31	*Lagerstroemia indica*	Pharash	Lythraceae
32	*Leucaena leucocephala Lam*	Soobabul	Mimosaceae
33	*Morus alba*	Tut	Moraceae
34	*Michelia champaca*	Champa	Magnoliaceae
35	*Moringa oleifera*	Sehjan/Mungna	Moringaceae
36	*Madhuca longifolia*	Mahuwa	Sapotaceae
37	*Mangifera indica*	Aam	Anacardiaceae
38	*Nerium oleander*	Nerium	Apocynaceae
39	*Nyctanthes arbor tristis*	Harsringar	Oleaceae
40	*Neolamarckia cadamba*	Kdamb	Rubiaceae
41	*Pongamia glabra*	Karanj	Fabaceae
42	*Phyllanthus emblica*	Amla	Phyllanthaceae
43	*Pterocarpus marsupium*	Bija sal	Fabaceae
44	*Randia Dumetorum*	Mainphal	Rubiaceae
45	*Syzygium cumini*	Jamun	Myrtaceae
46	*Spondias pinnata*	Aamra	Anacardiaceae
47	*Saraca indica*	Ashok	Fabaceae
48	*Shorea robusta*	Sal	Dipterocarpaceae
49	*Schleichera oleosa*	Kusam	Sapindaceae
50	*Terminalia arjuna*	Arjun	Combretaceae
51	*Tamarindus indica*	Imli	Fabaceae
52	*Terminalia elliptica*	Asan	Combretaceae

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S. No.	Scientific Name	Local/Common Name	Family
53	*Terminelia belerica*	Bahera	Combritaceae
54	*Tectona grandis*	Sagwan	Lamiaceae
55	*Ziziphus mauritiana*	Ber	Rhamnaceae
	Shrubs and Herbs		
1	*Acacia nilotica*	Babla	Fabaceae
2	*Brassica napus*	Rapessed	Brassicaceae
3	*Colocasia esculenta*	Kachu	Araceae
4	*Corchorus olitorius*	Jute	Malvaceae
5	*Carisa spinarum*	Jangli Karonda	Apocynaceae
6	*Calotropis gigantea*	Akwan	Asclepiadaceae
7	*Cicer arietinum*	Chana daal	Fabaceae
8	*Cajanus cajan*	Arhar daal	Fabaceae
9	*Curcuma longa*	Haldi	Zingiberaceae
10	*Euphorbia hirta*	Dudhi	Euphorbiaceae
11	*Holarrhena pubescens*	Kurchi	Apocynaceae
12	*Ipomoea Carnea*	Thethar	Convolvulaceae
13	*Lens culinaris*	Masur daal	Fabaceae
14	*Lablab purpureus*	Sim	Fabaceae
15	*Lantana camara*	Putus	Verbenaceae
16	*Macrotyloma uniflorum*	Kurthi Daal	Fabaceae
17	*Ocimum tenuiflorum*	Common Tulsi	Lamiaceae
18	*Pisum sativum*	Pea	Fabaceae
19	*Punica granatum*	Anar	Lythraceae
20	*Ricinus communis L*	Castor bean	Euphorbiaceae
21	*Swertia*	Chiriata	Gentianaceae
22	*Tagetes*	Genda	Asteraceae
23	*Thespesia Lampas*	Van kapos	Malvaceae

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S. No.	Scientific Name	Local/Common Name	Family
24	*Vigna mungo*	Urd daal	Fabaceae
		Grasses	
1	*Apluda mutica*	Bhangoru/Karedi	Poaceae
2	*Arundinella pumila*	Dhudu	Poaceae
3	*Bambusa vulgaris*	Bamboo/Bass	Poaceae
4	*Cynodon dactylon*	Doob	Poaceae
5	*Cymbopogon*	Lemon grass	Poaceae
6	*Eulaliopsis binata*	Sabai grass	Poaceae
7	*Imperata arundinacea*	Cherograss	Poaceae
8	*Lolium perenne*	Ryegrass	Poaceae
9	*Panicum montanum*	Khrj	Poaceae
10	*Panicum antidotale*	Shulki	Poaceae
11	*Pearl millet*	Bajra	Poaceae
12	*Saccharum officinarum*	Sugarcane	Poaceae
13	*Sorghum*	Jowar	Poaceae
14	*Scoenoplectus supinus*	Jhadu ghans	Poaceae
15	*Zea mays*	Makki	Poaceae
		Climber	
1	*Basella rubra L.*	Poi	Basellaceae
2	*Cuscuta reflexa*	Amarvel	Convolvulaceae
3	*Cryptolepis buchanani Schult.*	Bada dudhi	Asclepiadaceae
4	*Ipomoea batatas (L.) Lam.*	Shakarkanda	Convolvulaceae
5	*Luffa cylindrica (L.) Roem.*	Turiya	Cucurbitaceae
6	*Luffa acutangula*	Jingi	Cucurbitaceae
7	*Momordica charantia L.*	Karela	Cucurbitaceae
8	*Momordica dioica Roxb.*	Kheksha	Cucurbitaceae
9	*Milletia auriculata*	Palandu	Fabaceae

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S. No.	Scientific Name	Local/Common Name	Family
10	*Phaseolus vulgaris*	Common sim	Fabaceae
11	*Tinospora cordifolia*	Giloy	Menispermaceae

3.9 Fauna

Saraikela-Kharsawan has a rich variety of flora and fauna. The Dalma Wild Life Sanctuary is partially located in this district and presents a panorama of this variety. The clearing of jungle into cultivated –arable land has reduced the stock of wild life animals although the area still possesses variety of animals. There is large variety of wildlife, including tigers, elephants, leopard, bear, fox, hyena, jackal, sambhars, wild boar, pythons, spotted deer (chitals), and rabbits, barking deer, wild pig and foxes. The mammalian fauna also include langurs and rhesus monkeys. The lesser mammals are the porcupines, hares, wild cats, honey badgers, Malabar giant squirrels, mongooses, wolves, antelopes etc. Rodents, mice, hares are also found in the forest area. Peacock, pea-fowl, pigeons, duck, snipe and water fowl are also found the forest region. The common snakes found the region area krait, cobra, viper and banded krait. Bees, wasps, ticks, ants, termites cockroaches, butterflies are represent common insects found in the area.

Table 3-4:- *Faunal species of Saraikela District*

S. No.	Scientific Name	Local/Common Name	Schedule/IUCN Category
Mammals			
1	*Boselaphus tragocamelus*	Nelgai	III /LC
2	*Bubalusbubalis*	Domestic water buffalo	---
3	*Bos taurus indicus*	Domestic Cow	---
4	*Capra aegagrus hircus*	Domestic Goat	---
5	*Felis chaus*	Jungal Cat	II /LC
6	*Funambulus palmarum*	Indian palm squirrel	IV/LC
7	*Herpestes edwardsii*	Common Mongoose	II (Part I)/LC
8	*Lepus nigricollis*	Indian Hare	IV/LC

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9	*Macaca mulatta*	Monkey	III/LC
10	*Pteropus giganteus*	Chamgadar	III/LC
11	*Rattus sp.*	Rats	V/LC
12	*Sus scrofa*	Wild Boar	III /LC
13	*The Indian pariah dog*	Street Dog	IV/LC
Reptiles & Amphibians			
1	*Hemidactylus frenatus*	Common house gecko	IV/ LC
2	*Ptyas mucosa*	Dhaman	IV/NE
3	*Calotes vesicolor*	Garden lizard	IV/NE
4	*Bungarus fasciatus*	Karait, Banded	IV/ LC
5	*Euphlyctis cyanophlyctis*	Indian skipper frog	IV/LC
6	*Hoplobatrachus tigerinus*	Indian bull frog	IV/LC
Avifauna			
1	*Alcippe Poioicephala*	Quaker Tit Babbler	IV /LC
2	*Acridotheres tristis*	Common Myna	IV /LC
3	*Alcedo atthis*	Common kingfisher	IV/ NA
4	*Anastomus oscitans*	Asian Openbill	IV/LC
5	*Columba livia*	Rock Pigeon	IV/Low Concerned
6	*Centropus sinensis*	Greater Coucal	IV/LC
7	*Corvus splendens*	Common Crow	V/LC
8	*Columba livia*	Rock Pegion	IV/ LC
9	*Eudynamys scolopaceus*	Asian Koel	IV/LC
10	*Egretta garzetta*	Little Egret	IV/LC
11	*Francolinus gularis*	Swamp francolin	IV/LC
12	*Hirundo rustica*	Common Swallow	IV/LC
13	*Lanius cristatus*	Brown Shrike	IV/LC
14	*Lonchura malacca*	Munia	IV/LC
15	*Merops orientalis*	Green bee-eater	IV/LC
16	*Phalacrocoracidae*	Cormorants/ shags.	IV /LC
17	*Psittacula krameria*	Rose ringed Parakeet	IV/ LC

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18	*Pycnonotus cafer*	Red vented bulbul	IV/ LC
19	*Passer domesticus*	House Sparrow	IV/LC
20	*Sterna acuticauda*	Black-bellied Tern	IV /ES
21	*Saxicoloides fulicata*	Indian Robin	IV/LC
22	*Turdoides striata*	Jungle babbler	IV/ LC
23	Turdoides Caudatus	Common Babbler	IV/ LC

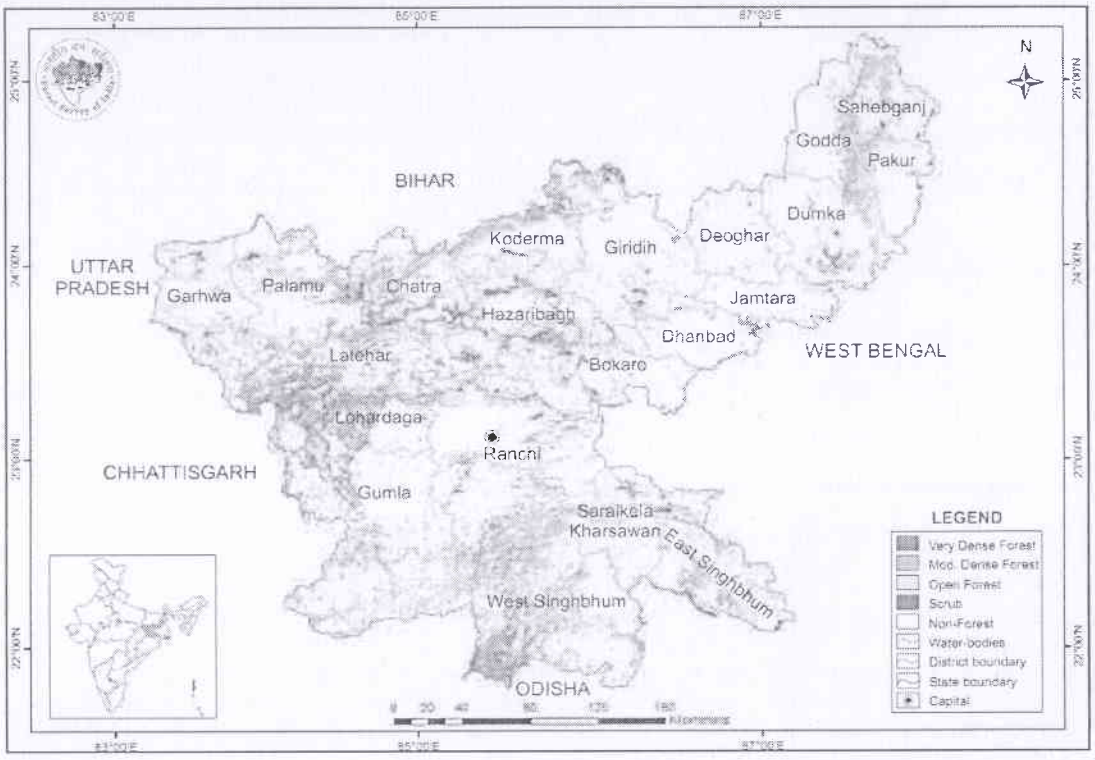

Figure 3-7:- Forest Cover Map of Jharkhand

3.10 PHYSIOGRAPHY

Saraikela- Khasarwan is surrounded lush green forests, hillocks, serpent like rivers and rivulets, Saraikela Town is situated on the bank of Kharkai River. The district has not only a rich cultural heritage but also has large deposits of minerals like Cyanide, Asbestos, quartz etc. and other valuable minerals. The major hills are confined to the eastern part of the district comprising the Gandeshwari Pahar (238.41m) and Kesgari Pahar (268.29m) while in the western part of the district isolated hills are in the form of the inselbergs and other small hillocks.

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3.11 Soil and rock pattern

The soil is mostly acidic, reddish yellow, light textured and highly permeable with poor water holding capacity. The soil pH ranges from 4.5 to 6.6. Soils of majority area are acidic (96.1 % of TGA), in which 42.9 percent area is strongly acidic, 24.2 percent very strongly acidic, 23.1 percent moderately acidic and 5.9 percent slightly acidic in reaction. Soils of 1.6 percent area of the district are neutral in reaction. Organic carbon content in the district ranges from 0.26 to 1.55 %. Soils of 60.4 percent area of the district show high organic carbon content. Medium and low organic carbon content constitutes 22.2 and 15.1 percent area respectively. Available nitrogen content in the surface soils of the district ranges between 183 and 611 kg/ha. Majority soils (80.2 % of TGA) of the district have medium availability of nitrogen and soils of 12.4 percent area have low available nitrogen content. Available phosphorus content in these soils ranges between 0.8 and 25.1 kg/ha. Majority of the soils are low (94.9 % of TGA) followed by medium (2.7 % of TGA) and high (0.1 % of TGA) in available phosphorous content. Available potassium content in these soils ranges between 43 and 420 kg/ha. Soils of majority area (64.8 % of TGA) have medium available potassium content. Soils of 27.4 percent area are low and 5.5 percent area is high in available potassium content. The available sulphur content in the soils ranges from 0.4 to 81.7 mg kg-1. Soils of 40.9 percent of the area are low whereas soils of 26.2 and 30.6 percent area are medium and high in available sulphur content respectively. Soils are analysed for available (DTPA extractable) micronutrients and seen that all the soils are sufficient in availability of iron and manganese whereas soils of 3.6 and 5.4 percent area are deficient in availability of zinc and copper respectively. The available boron content in the soils ranges from 0.02 to 3.03 mg/kg-1. Soils of 54.9 percent area of district are deficient (0.50 mgkg-1) in available boron content.

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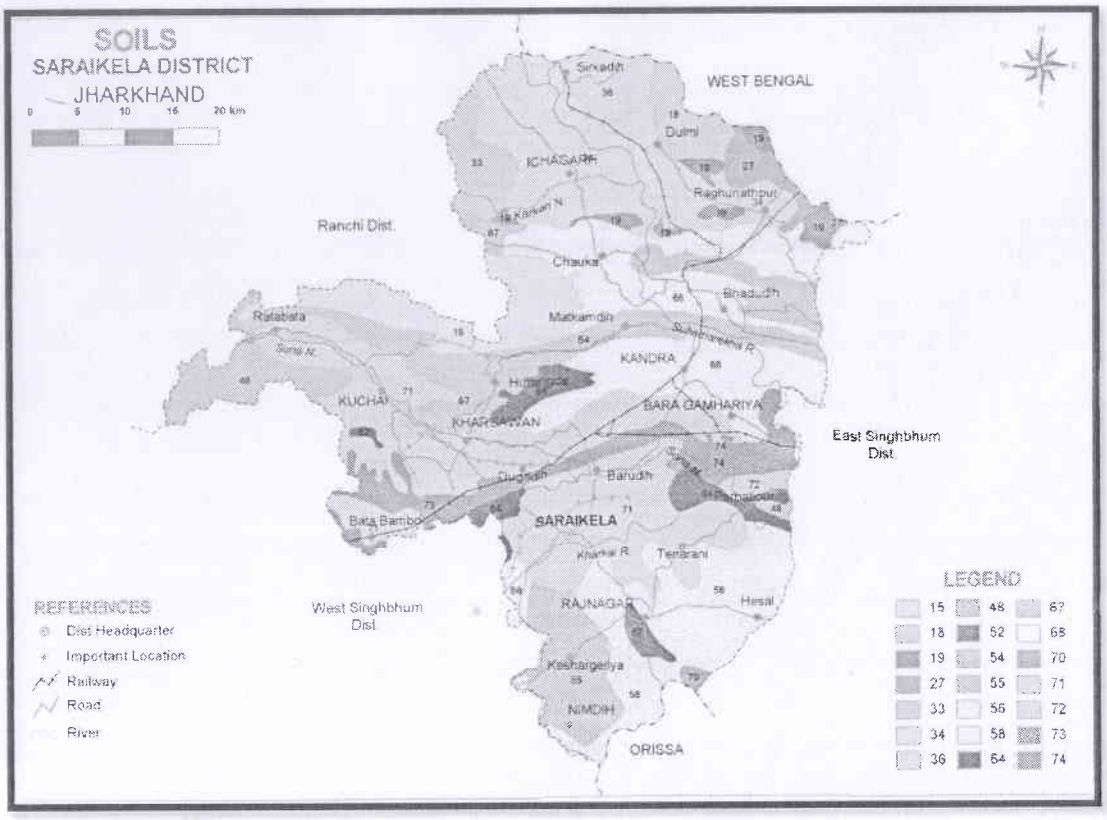

Figure 3-8:- Soil Map of Sarikela District

(Source:https://atmaseraikella.org/soil/Seraikella_Soil_Map.pdf)

3.12 Geomorphology

The predominant physical feature over major part of the district is the rolling topography dotted with isolated inselbergs except in the Borijore and Sundarpahari blocks. A substantial part of Borijore and Sundarpahari block is under forest cover. The altitude of the land surface increases from west to the east. The major hills are confined to the eastern part of the district comprising the Gandeshwari Pahar (238.41m) and Kesgari Pahar (268.29m) while in the western part of the district isolated hills are in the form of the inselbergs and other small hillocks.

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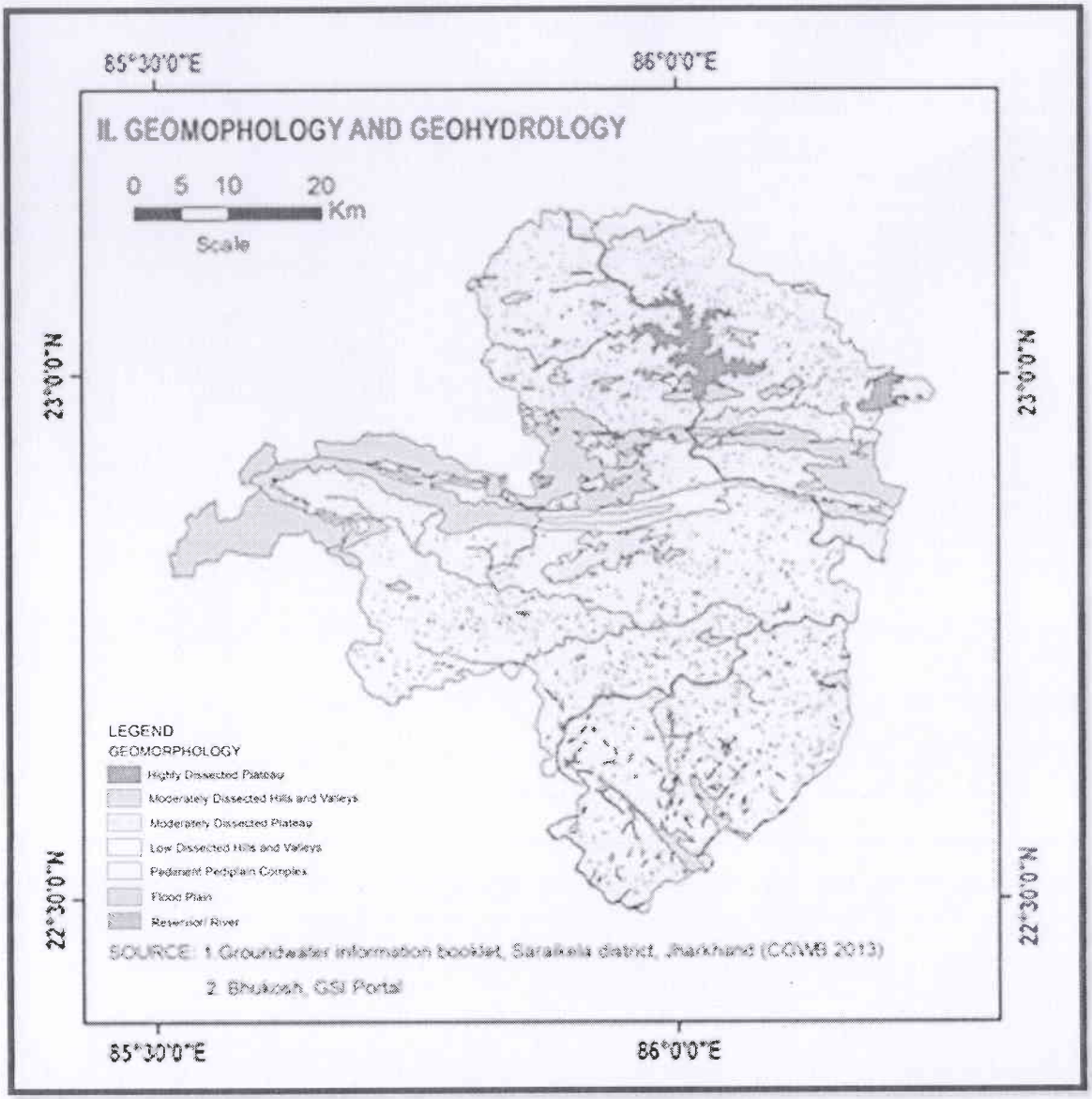

Figure 3-9:- Geomorphological Map Saraikela-Kharsawan District

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4 GEOLOGY & MINERAL WEALTH OF THE DISTRICT

4.1 Geology

Jharkhand state as part of the Indian Peninsular Shield is a cratonic block of the earth's crust. Jharkhand is known for diversified geological set up. The whole of Singhbhum region is considered as a natural geological museum. Geologically, Jharkhand consist of different types of rocks formations ranging from Precambrian to Cenozoic Era.

Structurally the state can be divided into "Southern Singhbhum Province" and "NorthernSinghbhum Province" divided by Tamar-Khatra Fault (TKF) popularly known as the "Northern Singhbhum Shear Zone" The famous "Singhbhum Thrust" is the store house of several important minerals traversing East Singhbhum, West Singhbhum and Seraikela-Kharsawan district.The SSZ is the host to mineral occurrence of economic importance. This belt hosts several copper, uranium and apatite-magnetite and several other deposits. Besides these, nickel, gold, molybdenum, silver, tellurium and selenium are also extracted as by-products from the copper and uranium ores.

Geologically Seraikela-Kharsawan district lies nearest to the Singhbhum Shear Zone and Dalma Thrust and SSZ is the store house of mineral hence there are numbers of economic and strategically minerals. Here the mining activity is involved in sand as in Jodia, Tiruldih, Seherbera, etc. Quartizite as in Patahesel (Seraikela) Jaikam (Gamharia) Stone as in Lengdih (Chandil), Medki (Rajnagar) besides this Uranium is also extracted from Mahuldih (Gamharia). Besides above minerals, Seraikela-Kharsawan is also rich in Iron Ore, Kyanite, Potstone, Soapstone and Pyrophyllite.

Table 4-1:- Generalized stratigraphic succession of the district

Age Group	Series	Stage	Lithology
Recent	Alluvium		Sand, silt and clay
Pre Cambrian	Iron Ore Series	Chaibasa Stage	Quartzites, Mica Schist, and Quartz-mica-schist
		Singhbhum shear zone	Granite and granitic-gneisses

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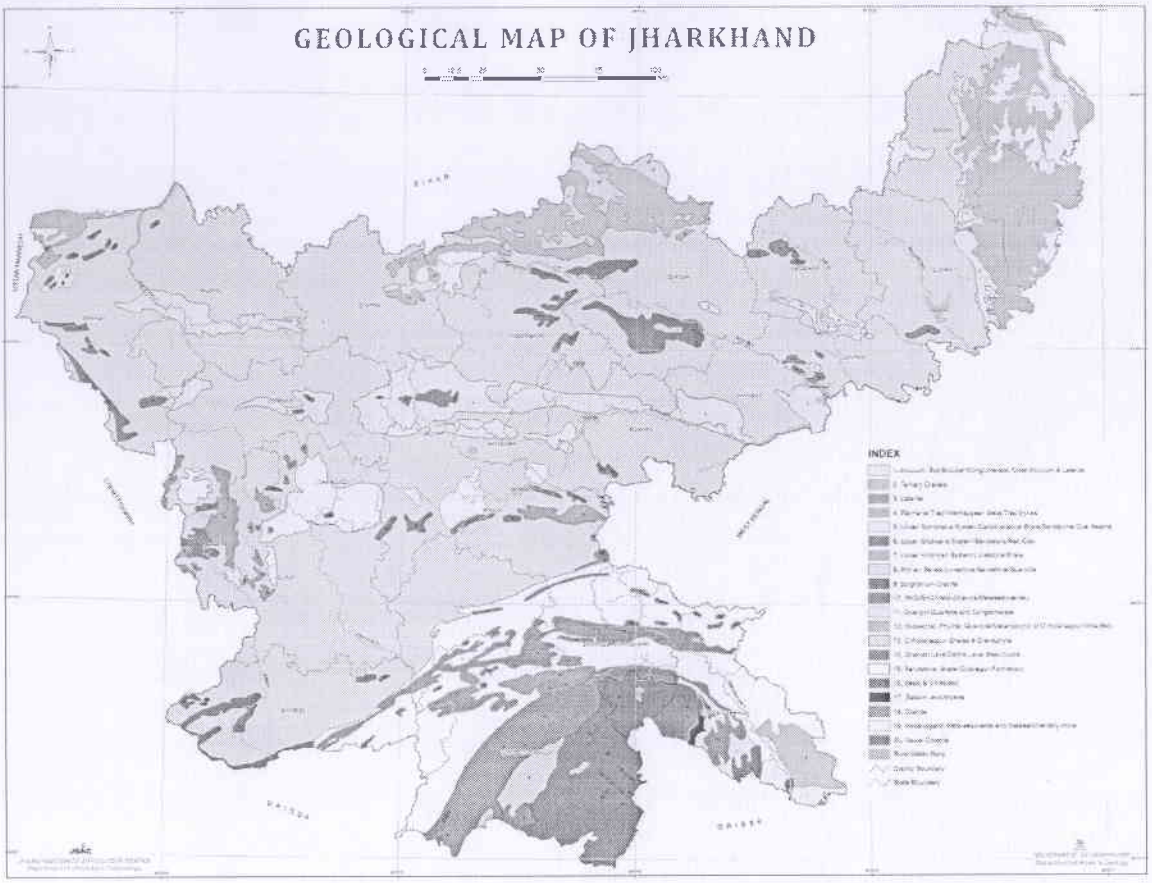

Figure 4-1:- Geological Map of Jharkhand

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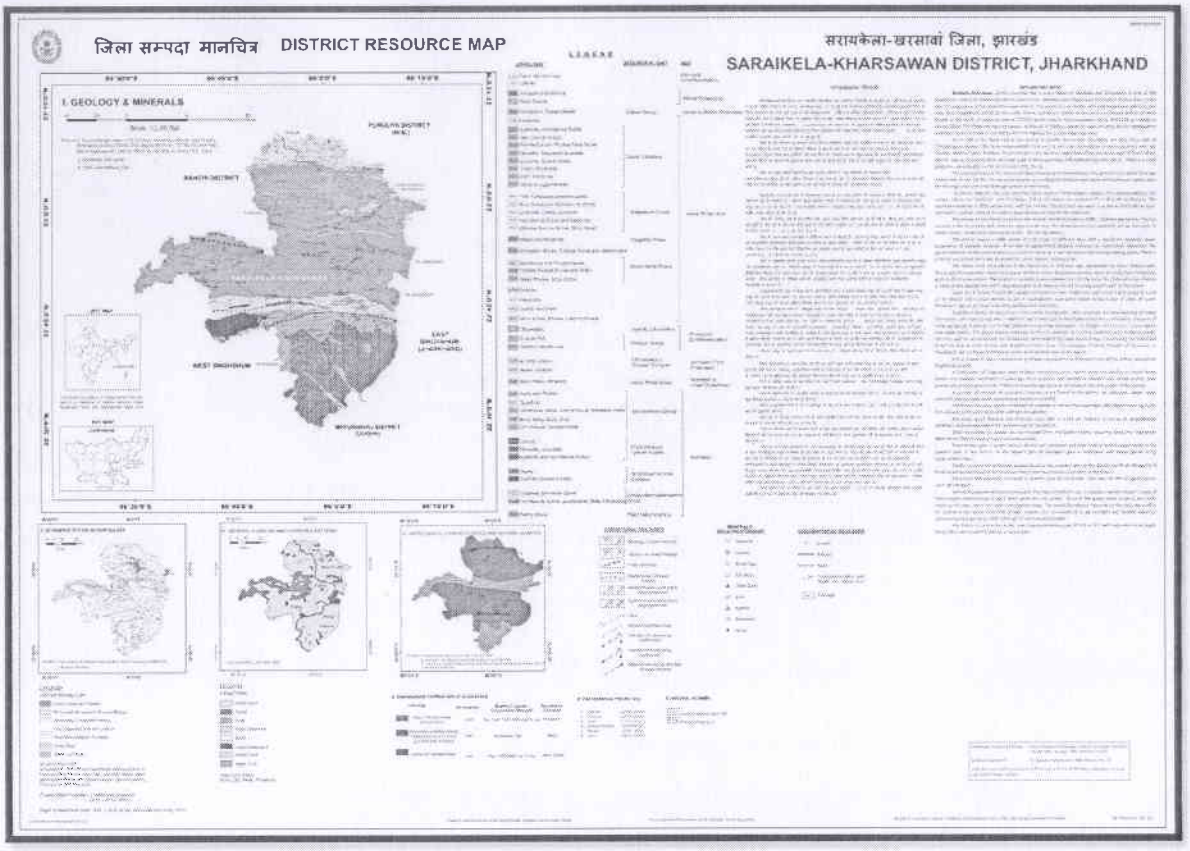

Figure 4-2:- District Resource map Saraikela, Jharkhand

4.2 Mineral Resources

Saraikela-Kharsawan district has major and minor Minerals abundance.

The main mineral resources found in Seraikela-Kharsawan district are Stone Quartz, Quartzite, Sand, Pyrophyllite, Pot Stone, Soapstone, Brick, Pyroxenite.

- **Quartz:**

Quartz is one of the most common minerals in the Earth's crust. As a mineral name, quartz refers to a specific chemical compound (silicon dioxide, or silica, SiO2), having a specific crystalline form (hexagonal). It is found is all forms of rock: igneous, metamorphic and sedimentary. Quartz is physically and chemically resistant to weathering. When quartz-bearing rocks become weathered and eroded, the grains of resistant quartz are concentrated in the soil, in rivers, and on beaches. The white sands typically found in river beds and on beaches are usually composed mainly of quartz, with some white or pink feldspar as well.

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- Quartzite

Quartzite is a metamorphic rock derived from sandstone that is distinguished from sandstone by its fracture. Sandstone breaks along grain boundaries, whereas quartzite is so well indurated (hardened) that it breaks across constituent grains. The intense heat and pressure of metamorphism causes the quartz grains to compact and become tightly intergrown with each other, resulting in very hard and dense quartzite.

- Pyrophyllite

Pyrophyllite is a rarer phyllosilicate, specific to some types of metamorphic rocks. It is an important industrial mineral, an ore with many different applications whose price depends on the alumina content, other associated minerals and the Fe content, considered an impurity. It is desirable and necessary to remove Fe from the ore until the content is less than 1%.

It is classified in the Pyrophyllite-Talc Group and is the Al analogue of ferrypyrophyllite. A monoclinic and a triclinic polytype are known. There are three varieties (with Fe oxides, with Cr, in gel). The identification of pyrophyllite by microscopy is problematic, and it is necessary to combine the use of stereomicroscopy, Transmitted Light microscopy and Reflected Light microscopy with other analytical techniques such as Scanning Electron Microscopy, X-Ray Diffractometry, Fourier Transform Infrared Spectroscopy, Thermogravimetry and wet chemical analysis.

- Pyroxenite

Pyroxenite is an ultramafic igneous rock that contain pyroxene group minerals such as augite, diopside, hypersthene, bronzite or enstatite. This is a coarse-grained rock and that contains at least 90 percent pyroxene minerals. Also Pyroxenite contain olivine and oxide minerals, when it occurs in layered intrusions or nepheline. It is hard and heavy rock and color is light green. Single crystals may be 3 inc or more in lenght. Pyroxenites are usually found with gabbros and peridotites. There are three type of pyroxenite rock that areclinopyroxenites, orthopyroxenites, and the websterites.

Color: Light green, dark green, or black

- **Brick clay: -**

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Clays and clay minerals occur under a fairly limited range of geological conditions and are produced by weathering of silicate minerals containing calcium, magnesium, sodium, or potassium reacting with carbonic acid, carbonates, and bicarbonates. These soluble products are removed by ground water, while the remaining elements, aluminium, silicon and oxygen combine with water to produce stable clay minerals. The environment of formation includes soil horizons, continental and marine sediments, geothermal fields, and weathering rock formations. Extensive alteration of rocks to clay minerals can produce relatively pure clay deposits that are of economic interest. Clay formed at the site of the parent rocks is known as primary or residual clay; the one carried away or transported and deposited elsewhere is known as secondary clay. For obvious reasons, the former is purer with less impurity (5%-15%), while the latter may contain mica, quartz, and iron oxide as impurities. More than 34 bricks factories are currently running in the Saraikela-Kharsawan district.

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5 DRAINAGE SYSTEM & IRRIGATION PATTERN

5.1 Drainage System

The Subarnarekha River has been controlled by strike of the rocks especially phyllites which are in contact with the Dalma lavas and the river course has followed across the anticlinal ridges. The drainage of the whole area is controlled by Subarnarekha and Kharkhai River. Kharkhai River is somewhat structurally controlled by Singhbhum Shear zone (SSZ) and helps to drain in the south west. The northern Dalma ridge is the dominant volcanic hill formed a mountain range of considerable prominence above the Tertiary plain. Physiographically the district shows the dendritic drainage pattern. Here both consequent and subsequent river are found. The main river is Subarnarekha and Kharkhai showing 6th river order. District has undulating hills in south near to Singhbhum shear zone and has also flat area in the northen side. Two river basin are prominent here i.e kharkhai and Subarnarekha. SubarnarekhaRiver originating near Piska/Nagri in Ranchi traverses through Ranchi, Seraikela-Kharsawan and East Singhbhum district. It eventually joins the Bay of Bengal near Talsari in Bengal. Its important tributary is Kharkai River which originates in Mayurbhanj district of Odisa, flows past Rairangpur and heads north to about Seraikela and turns east to meet Subarnarekha in NW of Jamshedpur.The two other rivers of the district are Sanjay and Sona River. The river Sanjai originates in the forest clad hills of Porahat, North West of Sonua and receives Bamni a perennial stream near Ujjalnpur about 5 miles South of Gamharia Station on the South Eastern Railways.The river Sona orginates in the Raisindri hill rangeand passes almost through the middle of Kharsawan range and finally meets the river Sanjai near Bungi in Seraikela. Apart from these rivers there are many small & large streams, which criss-cross the district, draining either into the Kharkai or Subanarekha considerable part of the year, which indicates the effluent nature of the rivers.

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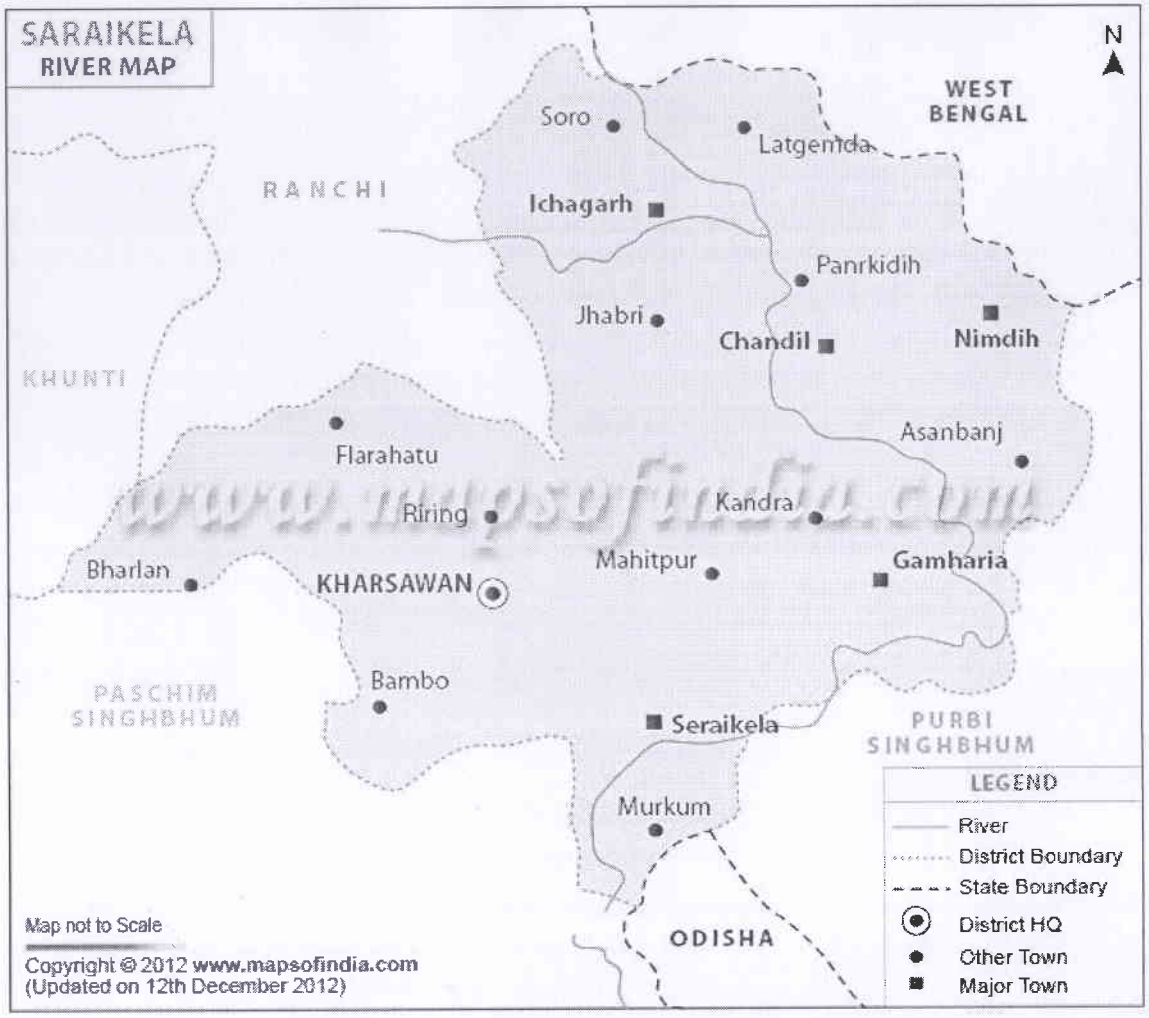

Figure 5-1:- River map of Saraikela-Kharsawan district

(Source: https://www.mapsofindia.com/maps/jharkhand/rivers/saraikela.html)

Table 5-1:- Details of major rivers of Saraikela-Kharsawan District

Sl. No.	Name of the River	Type of River	Area Drained (km^2)
1	Kharkai River	Perennial	2.15
2	Subarnarekha River	Perennial	3.99

Table 5-2:- Salient features of important River & Streams

Sl. No.	Name of the River	Total Length in the district (in km)	Place of Origin	Altitude at Origin (in m)
1	Kharkai River	83.4	Mayurbhanj district, Odisha,	928 m (3,045 ft)

2	Subarnarekha River	156.0	Nagri village in Ranchi	600 m

5.2 Agriculture & Irrigation Pattern

Paddy is the main crop of the district. Other major crops are rice, maize, pules and oilseeds, other vegetables, flowers etc. The horticulture is Cauliflowers cabbage, tomato, brinjal, L finger, cucumber etc. The croppind is mainly depending upon the rain fed irrigation. Other source of iriigation in the district is tube wells, canals and other wells.

Table 5-3:- Block wise number of Irrigation Structure of Saraikela-Kharsawan district (2016-17)

Categories	Area(sq.km)	%
Agricultural Plantation	0.09	0.00
Cropped in more than two seasons	26.36	0.97
Cropped in two seasons	210.48	7.73
Fallow Land	120.03	4.41
Kharif	998.78	36.55
Rabi	1.50	0.06
Zaid	0.10	0.00
Non- Agricultural Land	1256.42	46.11
River/Water Body	104.72	3.84
Mine/Quarry	6.31	0.23
Total	**2724.55**	**100**

Table 5-4:- Agriculture Contingency Plan for District: Saraikela

1.0	District Agriculture profile			
1.1	Agro-Climatic/Ecological Zones			
	Agro Ecological Sub Region (ICAR)	Eastern plateau (chotanagpur) And Eastern Ghats, Hot Subhumid Eco-Region (12.3)		
	Agro-Climatic Zone (Planning Commission)	Eastern Plateau And Hills Region (VII)		
	Agro Climatic Zone (NARP)	South Eastern Plateau Zone (BI-6)		
	List all the districts falling under the NARP Zone* (*>50% area falling in the zone)	Khunti, East singhbhum, Ranchi, Sareikela		
	Geographic coordinates of district headquarters	Latitude	Longitude	Altitude
		21° 51' - 23° 56'N	85° - 86°E	250-1000 m
	Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS	Zonal Research Station (ZRS), Darisai, Birsa Agricultural University, Ranchi		
	Mention the KVK located in the district with address	Krishi Vignan Kendra,Seed Multiplication Farm, Gamharia, Distt. Saraikela-Kharsawan		
	Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone	ZRS, Darisai		

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5.3 Cropping Pattern

More than 40 percent area of the district is under forest. The forest is full of kendu leaves, bamboo, sal, teak and other timber species. The hilly areas aremostly under forest with patches of cultivation on scarp areas. The valley land inthe district provides suitable site for agricultural use. Major crops grown in the district are rice, oilseed and pulses.

Table 5-5:- Cropping Pattern of Saraikela-Kharsawan district

Season	Crop	Cropped area (Ha.)	% of Cropped
Kharif	Paddy	8514	17
	Maize		
	Pulses		
Rabi	Wheat	2760	5
	Pulses		
	Oilseeds		

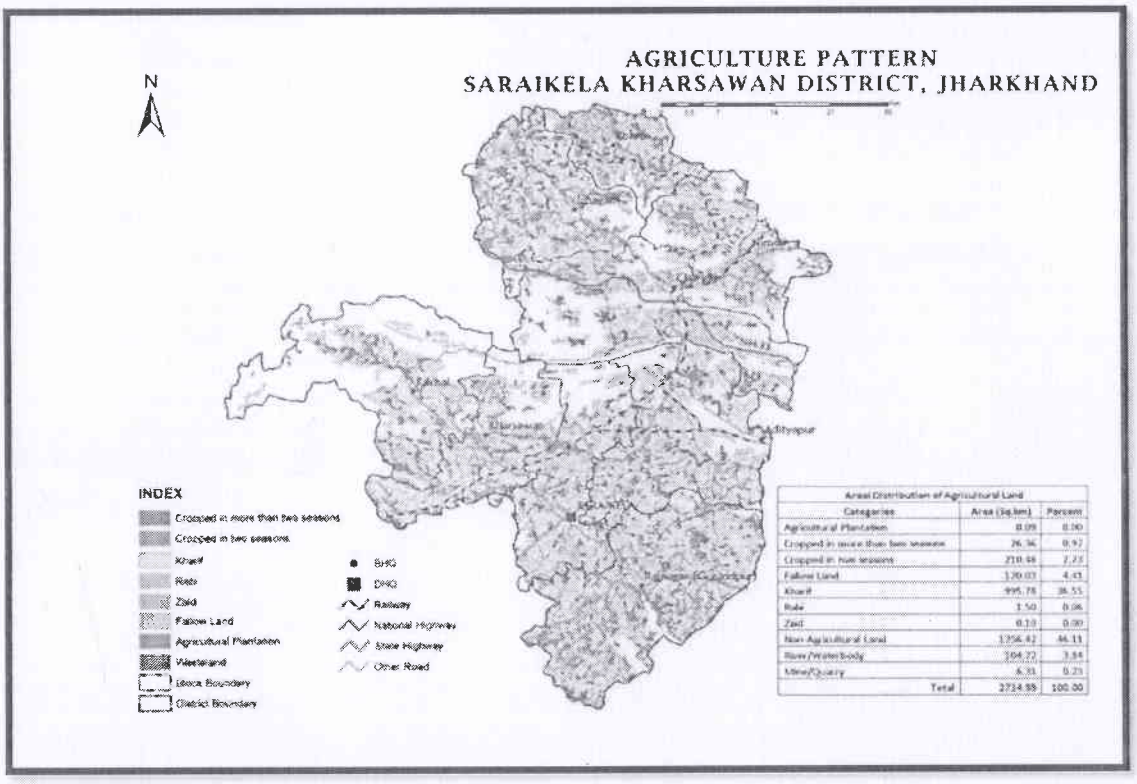

Figure 5-2:- Agriculture pattern of the district

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6 LAND UTILIZATION PATTERN OF THE DISTRICT

6.1 Land Utilization Pattern

The history of land use in the study area is supposed to very old. Land of this region must have been utilized as per the conditions of different historical periods. In present context, the land use of this region is influenced by the development of irrigation facilities, other agriculture infrastructures, transport network and urbanization.

The land use stattics of Saraikela Kharsawan district, in accordance with the nine fold classification system in the revenue record is given in Table no. 8.1.

Table 6-1:- Land Use Pattern of Seraikela-Kharsawan District

Sl No.	Class Name	Area (Ha.)	Area (%)
1	Built-up Land	8653.77	3.26
2	Agricultural Land	61775.6	23.34
3	Agricultural Fallow Land	108397	40.95
4	Open Land	6026.77	2.28
5	River/Water Bodies	10808.6	4.08
6	Riverbed	750.39	0.28
7	Vegetation	7008.51	2.65
8	Forest	61307.2	23.16
	Total area	**264709.8**	**100.00**

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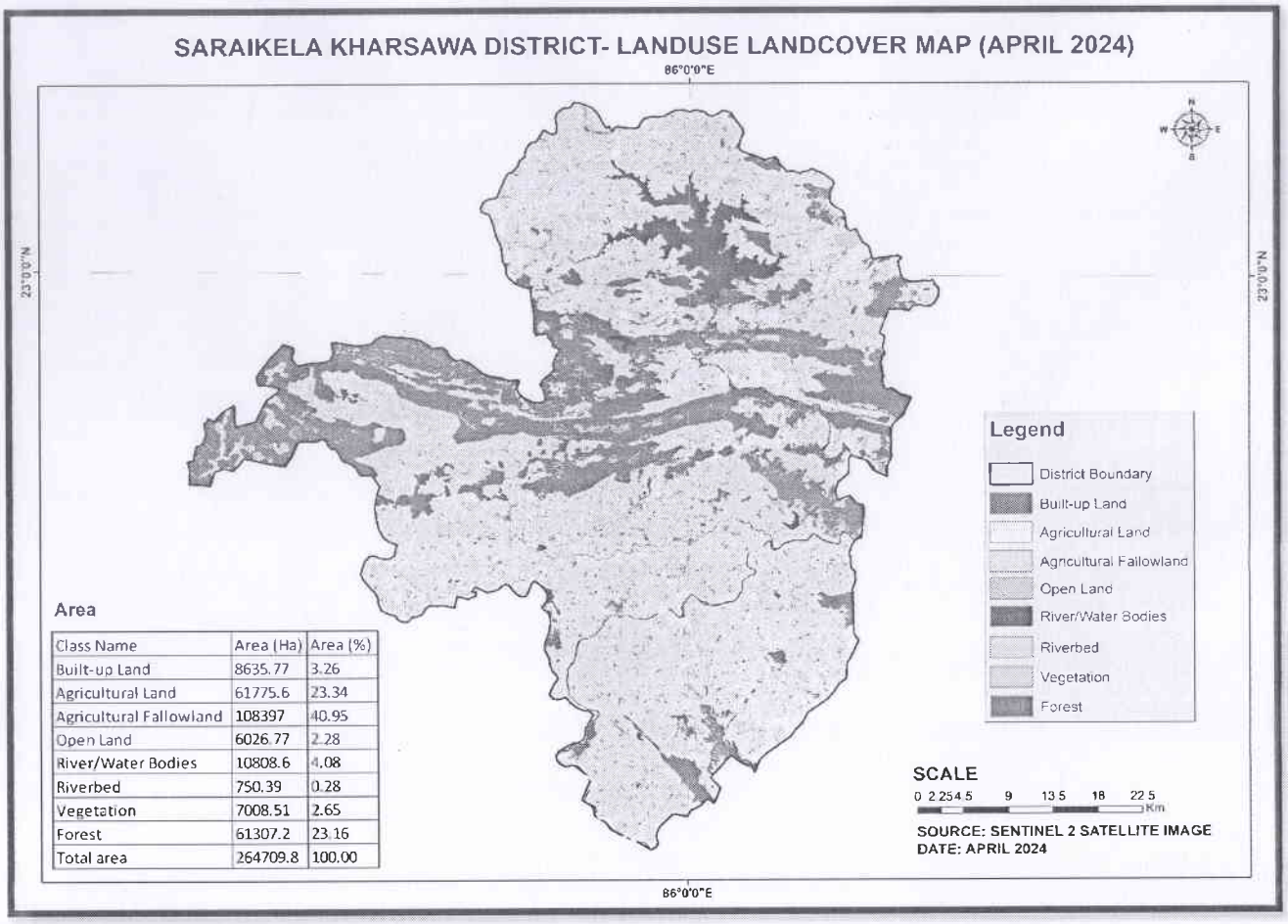

Area

Class Name	Area (Ha)	Area (%)
Built-up Land	8635.77	3.26
Agricultural Land	61775.6	23.34
Agricultural Fallowland	108397	40.95
Open Land	6026.77	2.28
River/Water Bodies	10808.6	4.08
Riverbed	750.39	0.28
Vegetation	7008.51	2.65
Forest	61307.2	23.16
Total area	264709.8	100.00

Figure 6-1:- Land use Land Cover Map Saraikela-Kharsawan District

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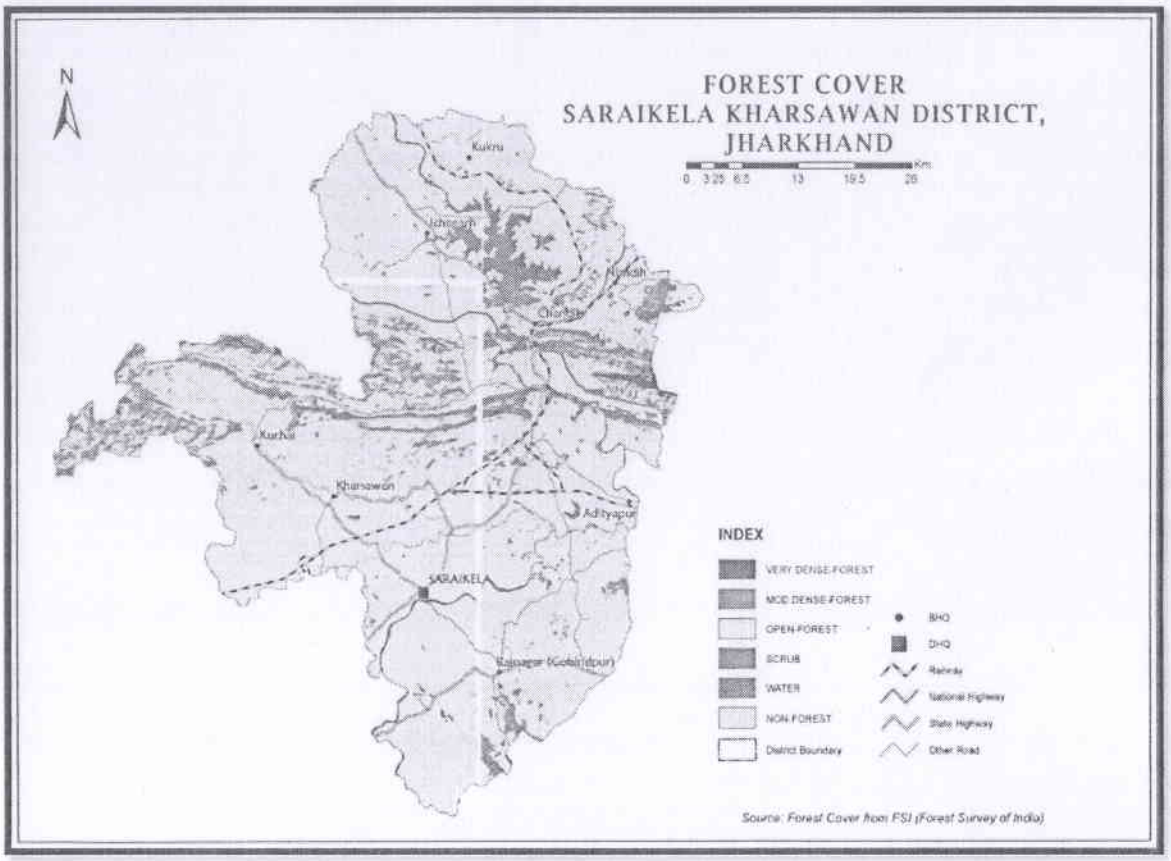

Figure 6-2- Forest Cover Map of Saraikela district

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7 SURFACE WATER & GROUND WATER SCENARIO OF THE DISTRICT

7.1 Hydrogeology

The southern part of the district is underlain by Granite-gneiss of Achaean age forming the basement. These occur as large batholiths and are intruded by basic rocks. In the central and northern part of the district the rocks of Barakar formation consisting of feldspathic sandstones, shales and coal seams overlying the metamorphics are exposed. In the western and northern part of the district alluvial cover of moderate thickness, caps the Archaean crystallines and the Gondwana sedimentaries.

The district is underlain by diverse geological formations with complex tectonic framework. The geological formations have been grouped under three main categories

a) The gneissic complex in the southern and the central part

b) The Rajmahal traps in the eastern and southeastern part

c) Gondwanas overlain by thin mantle of alluvial cover in the northern and central part.

Ground water occurs mostly under phreatic condition in all the lithological units within the shallow aquifers and locally under semi confined and confined condition in deeper aquifers.

7.2 Depth of Water Level

During May 2012, the depth to water levels in HNS wells tapping shallow aquifer ranged from 5.23 to 12.20 m bgl. Depth to ground water levels during the post monsoon period (November 2012) varied between 0.89 and 5.60 m bgl.

Categorization of depth to water level of pre-monsoon period (May 2012) for HNS in Saraikela district is given below:

Table 7-1:- Categorization of depth to water level of pre-monsoon period (May 2012)

No. of Wells measured	Depth to water level (m bgl)		(0-2 m)		(2-5m)		(5-10m)		(10-20m)	
	Min	Max	No.	%	No.	%	No.	%	No.	%
5	5.23	12.20	0	0	0	0	0	83.33	1	16.67

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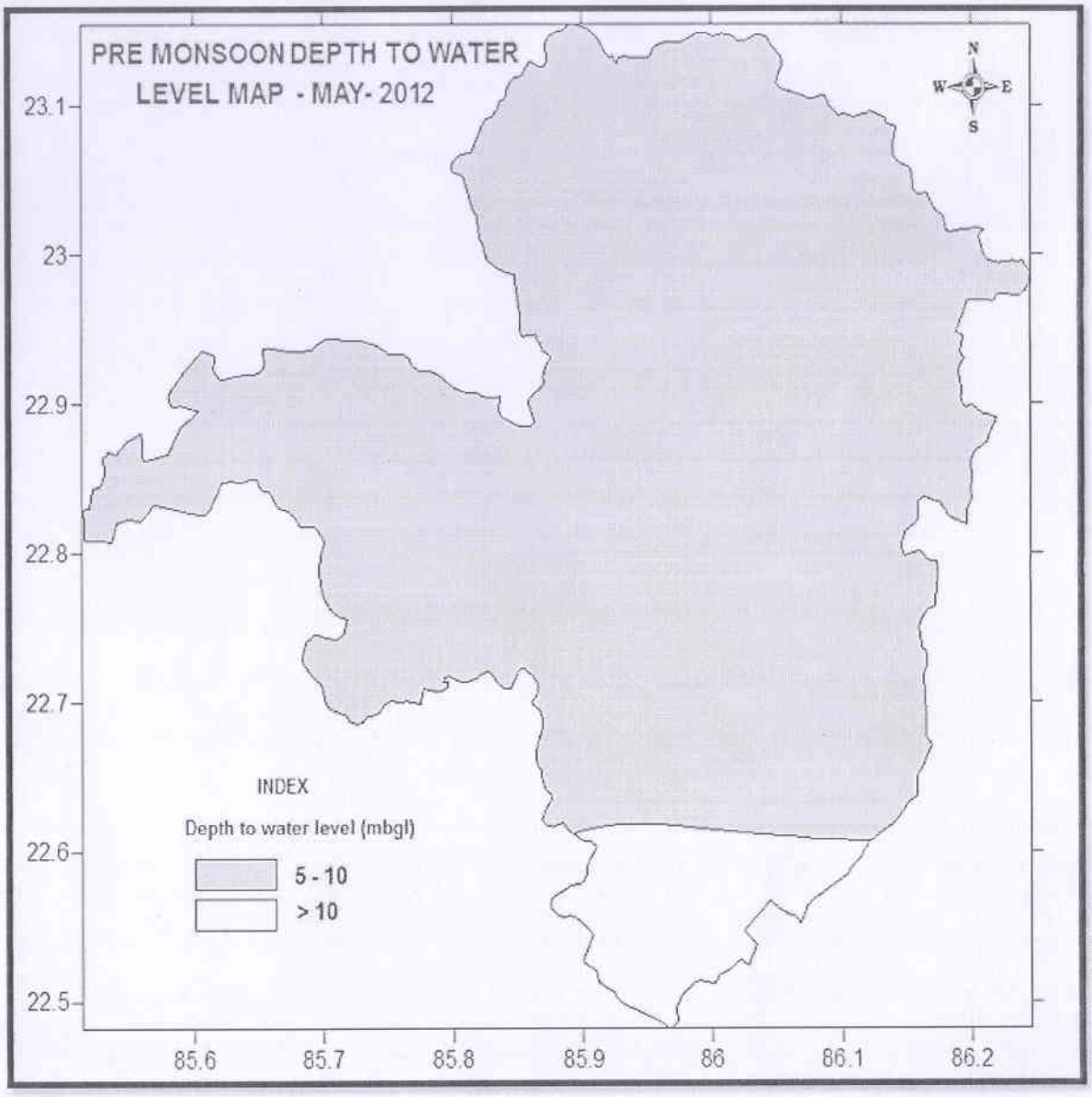

Figure 7-1:- Pre-monsoon season map Seraikela-Kharsawan District

Categorization of depth to water level of post-monsoon period (November 2012) for HNS in Saraikela district is given below:

Table 7-2:- Categorization of depth to water level of post- monsoon period (May 2012)

No. of Wells measured	Depth to water level (m bgl)		(0-2 m)		(2-5m)		(5-10m)		(10-20m)	
	Min	Max	No.	%	No.	%	No.	%	No.	%

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7	1.6	7.10	2	29	4	57	1	14	0	0

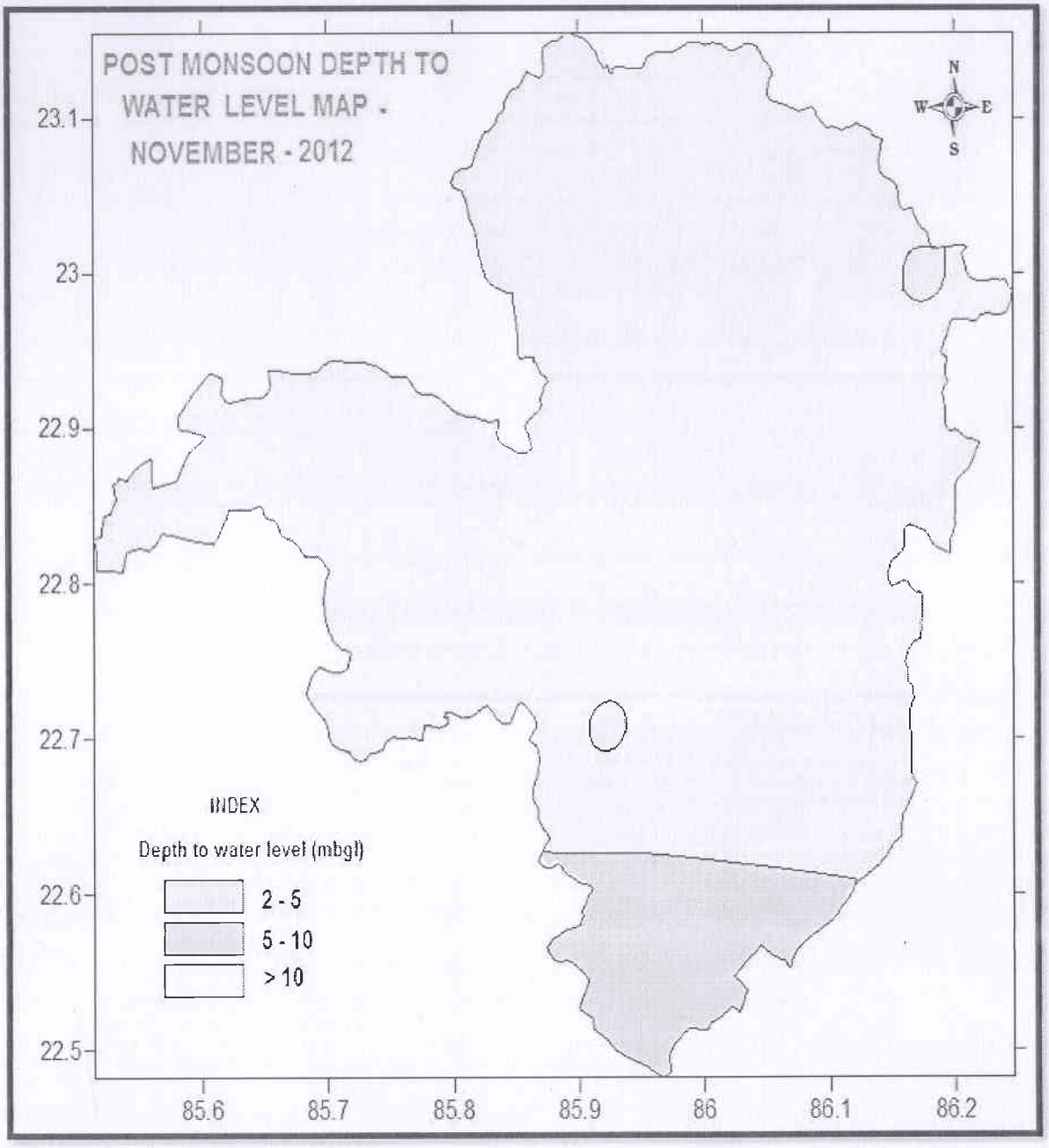

Figure 7-2:- Post-monsoon season map Seraikela-Kharsawan District

(Source – CGWB Report)

7.3 Aquifer Parameters

A total of 18 exploratory wells, 04 piezometers and 06 observation wells have been drilled down to depth of 202 m in hard rock formation to decipher the potential fracture zones. The

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morphotectonic analysis of crystalline formation has revealed that rocks have been subjected to several stages of deformation leading to development of deep seated tensile and shear fracture. The most potential fracture zones trend along NNE-SSW, WNW-SSE and NW-SE direction. The exploratory data reveals presence of potential fractures between 18-109 mbgl. The thickness of the weathered zone varies from 7 to 30.6.5m. The yield of the well is in the range of 2.52-27.53m3/hr Summarized hydrogeological data of exploratory drilling in the district is given in Table No.-9-3.

Table 7-3:- Summarized hydrogeological data of exploratory drilling

Rock Type	Depth range (mbgl)	No. of fractures tapped	Depth Range of fracture Zone	Water level (mbgl)	Yield (m3 /hr)	Drawdown (m)	T (m2 /day)	S
Granite gneiss	150-202	1-3	18-109	2.80-7.99	2.52-27.53	13.4-20.51	2.67-47.88	$2.1*10^{-4}$ - $6.1*10^{-5}$

7.4 Status of Ground Water Development

In the rural areas the entire water supply is dependent on ground water. Ground water development is mainly carried out in the district through dug wells and Hand pumps. In general dug wells are of 2 m diameter and the depth ranges between 8 to 15 m depending on the thickness of the weathered zone, tapping the shallow aquifer in the weathered zone and uppermost slice of the basement. Large number of dug wells used for drinking water is under private ownership for which there is no reliable data. Over the years Mark II/ Mark III hand pumps are being drilled in large numbers for ground water development. These hand pumps have the following two major advantages i) less susceptible to contamination from surface sources and ii) tap fractures between 20-60m depth which have been found to be less affected by seasonal water level fluctuation and thus have lesser chances of failure even during extreme summer. In rural areas of Saraikela district the number of hand pumps drilled by PHED is 12311 of which 9342 are under working condition. There are 574 dug wells constructed by government departments that are under regular use.

In the urban areas ground water plays a supplementary role in water supply, the major supply being made through dams, reservoirs or weirs across rivers or streams. No authentic data is available on the number of ground water structures catering the urban water supply.

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As per the latest ground water resource estimation carried out adopting GEC 97 methodology, the overall stage of ground water development in Saraikela district has been found to be 11.71 % indicating enough scope for future development. The ground water resources of Saraikela district is given in the.

Table 7-4:- Dynamic Ground Water Resource of Saraikela district as on 31st March 2009 as per GEC 97 (ham)

	Annual Replenishable Ground Water Resource					Natural Discharge during non-monsoon season	Net Annual Ground Water Availability	Annual Ground Water Draft			Projected Demand for Domestic and Industrial uses up to 2025	Ground Water Availability for future irrigation	Stage of Ground Water Development (%)
	Monsoon Season		Non-monsoon		Total			Irrigation	Domestic and Industrial uses	Total			
Block	Recharge from rainfall	Recharge from other sources	Recharge from rainfall	Recharge from other sources									
Chandil	2046.77	3.50	571.93	25.35	2647.55	264.75	2382.79	73.53	192.6	266.16	256.82	2052.44	11.17
Gumhariya	1648.36	2.53	460.60	27.02	2138.52	213.85	1924.66	87.894	282.2	370.07	376.20	1460.58	19.23
Ichagarh	2017.71	202.55	563.80	52.92	2836.98	283.70	2553.28	189.468	158.2	347.66	210.91	2152.90	13.62
Khansowan	1637.46	320.50	457.55	34.01	2449.53	244.95	2204.57	114.57	112.2	226.74	149.55	1940.45	10.29
Kuchai	2147.66	3.36	600.12	27.13	2778.26	277.83	2500.44	81.738	85.9	167.62	114.50	2304.20	6.70
Nindih	1556.03	2.34	434.80	48.00	2041.17	204.12	1837.05	173.394	151.4	324.77	201.82	1461.84	17.68
Rajnagar	2735.00	4.17	751.58	30.96	3521.70	176.09	3345.62	90.63	197.1	287.78	262.84	2992.15	8.60
Saraikela	1747.54	78.02	486.31	31.28	2345.15	234.52	2110.64	100.392	118.5	218.9	158.00	1852.25	10.37
Total	**15536.53**	**616.96**	**4328.69**	**276.68**	**20758.85**	**1899.80**	**18859.05**	**911.62**	**1298.09**	**2209.71**	**1730.63**	**16216.81**	**11.71**

Source: CGWB, Saraikela-Kharsawan

Table 7-5:- WATER LEVEL DATA OF NETWORK STATIONS MEASURED BYCGWB, SUO, RANCHI, JHARKHAND

Serial No.	Block	Location	Depth to water level (in m bgl)		
			Aug. 2021	Nov. 2021	Jan. 2022
1	**Adityapur (Gamharia)**	Kandra	1.80	2.35	3.32
2	**Kharsawan**	Kharsawan	1.98	3.86	4.70
3	**Nimdih**	Jamdih	2.10	1.95	2.66
4	**Rajnagar**	Rajnagar	2.55		2.60
5	**Saraikela**	Saraikela	2.00	1.94	3.35
6	**Chandil**	Chandil	3.10	Filled	
7	**Chandil**	Bhaludih	1.80		
8	**Nimdih**	Lupungdih	2.55		3.40

Source : Groundwater Year Book 2021-22

Fractures between 20-60m depth which have been found to be less affected by seasonal water level.

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Table 7-6:- BLOCK WISE GROUND WATER RESOURCES DATA OF SARAIKELAKHARSAWAN DISTRICT (ham) OF 2020

Block	Annual Replenishable Groundwater Resources (Total)	Natural Discharge During Non-Monsoon Season	Net Ground water Availability	Irrigation Draft	Domestic and Industry Draft	Total Draft	Stage of Groundwater Development (%)
Adityapur (Gamharia)	1965.6	196.56	1769.04	104	835.604	939.6	53.114
Rajnagar	4236	423.6	3812.4	121.75	180.253	302.01	7.922
Ichagarh	1780.99	89.04	1691.95	76.625	109.655	186.27	11.009
Kharsawan	1179.15	58.96	1120.19	139.875	133.96	273.83	24.445
Kuchai	1960.62	98.03	1862.59	142.875	84.875	227.74	12.227
Kukru	946.11	47.3	898.81	34.875	69.906	104.78	11.658
Nimdih	1682.49	168.25	1514.24	55.125	203.771	258.91	17.098
Saraikela	1817	181.69	1635.31	359.375	173.87	533.26	32.609
Chandil	2361.55	236.16	2125.39	65	318.177	383.17	18.028
Total	**17929.51**	**1499.59**	**16429.92**	**1099.5**	**2110.07**	**3209.57**	

Source:- India Water Resources Information System (WRIS)

Table 7-7:- GROUND WATER RESOURCES DATA (in ham) OF SARAIKELAKHARSAWAN DISTRICT OF JHARKHAND STATE OF YEAR 2020

Resource	Value
Annual Domestic and Industrial Draft	2110.07
Annual Irrigation Draft	1099.5
Annual Groundwater Draft (Total)	3209.57
Annual Replenishable Groundwater Resources (Total)	17929.51
Natural Discharge During Non-Monsoon Season	1499.59
Net Groundwater Availability	16429.92
Projected Domestic & Industrial Uses Upto 2025	1716
Groundwater Availability for Future Irrigation	13208.52
Stage of Groundwater Development (%)	19.53

Source :- India Water Resources Information System (WRIS)

- Some mines have their Geo-Hydrological Survey Report attached in **Annexure-XI.**

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8 RAINFALL AND CLIMATE OF THE DISTRICT

8.1 Climate & Rainfall

Climate: The climate of the area is moderate to extreme and characterized by hot summer and cold winter. Rainfall in this area is also very moderate. The summer season starts from March and continued to June until rain comes and temperature ranges from 27^0 to 46^0C. May and June are the two months when hot wind blows throughout the day. Monsoon spans from July to September with maximum rains generally in August. Normal rainfall varies from 100cm to 120cm. humidity reaches highest during monsoon, which varies between 70% to 80%, but in summer, it goes down to 25%. Winter starts at November and continues to February with its acme in January mostly. Temperature varies from 25^0C to 10^0C normally. In some day it goes down to 4-5^0C with a cold wave from north. The underground water resources of the area are poor and surface waters mainly from ponds are not available in summer. Dug wells are generally shallow and trap the shallow local underground pools, which become dry in summer. Rainfall is the main source of ground water recharge but most part of it passes away as surface runoff. Water retention capacity of soil or regolith is poor in this area as soil thickness is minimum at many places. The following varieties of plants are present such as Mango, Neem, Kul (Ber), Jam Sal, Bot, Shimul, Bel, Gamar, Babool etc. The crops in this area mainly depend on good monsoon. Rice is the principal crop followed by wheat, maize etc. Ravi and kharif crops are grown in very limited areas where water supply in winter is present. Potato and other vegetables grow along the channel floors where the thickness of soil is much more and contain water or moisture.

The rainfall of the district is given below in Table No 10-1

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Table 8-1:- Rainfall data

YEAR	JAN		FEB		MAR		APR		MAY		JUN	
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
2018	0	-100	0	-100	0	-100	142.7	487	41.6	-19	130.7	-46
2019	0	-100	5.6	-64	55.9	239	34.3	60	53.9	-2	126	-43
2020	22.9	49	8.8	-44	92.2	459	133.9	526	55.8	1	189.9	-13
2021	0	-100	4.3	-73	23.3	41	7.9	-63	318.1	476	206.5	-6
2022	20.7	55%	43	221%	0	-100%	0	-100%	75.7	18%	129.5	-37%
YEAR	JUL		AUG		SEPT		OCT		NOV		DEC	
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
2018	262.9	-18	200.4	-38	131.7	-47	15.2	-79	0	-100	19.6	263
2019	160.4	-48	260.6	-13	227.7	1	157.9	174	0	-100	16.1	209
2020	195.2	-37	275	-8	72	-68	48.6	-16	19.8	122	0	-100
2021	259.6	-17	197.7	-34	314.3	40	101.5	76	31.3	252	33	535
2022	208.6	-30%	371.8	29%	188.6	-13%	71	20%	0	-100%	0	-100%

(Source: https://hydro.imd.gov.in)

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Table 8-2:- Month wise data

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	18.3 °C (65) °F	22.4 °C (72.3) °F	27.1 °C (80.8) °F	31.2 °C (88.1) °F	31.7 °C (89.1) °F	30 °C (86) °F	27.4 °C (81.4) °F	27.1 °C (80.8) °F	26.9 °C (80.4) °F	25.6 °C (78) °F	22.4 °C (72.3) °F	18.8 °C (65.8) °F
Min. Temperature °C (°F)	11.8 °C (53.2) °F	15.5 °C (59.9) °F	19.6 °C (67.3) °F	24 °C (75.2) °F	26.1 °C (79) °F	26.4 °C (79.6) °F	25.1 °C (77.3) °F	24.8 °C (76.6) °F	24.2 °C (75.6) °F	21.5 °C (70.6) °F	16.9 °C (62.4) °F	12.6 °C (54.7) °F
Max. Temperature °C (°F)	25 °C (77) °F	29.1 °C (84.5) °F	34.3 °C (93.7) °F	38.4 °C (101.1) °F	38.1 °C (100.6) °F	34.5 °C (94.1) °F	30.7 °C (87.3) °F	30.5 °C (86.9) °F	30.5 °C (86.8) °F	29.9 °C (85.9) °F	28 °C (82.4) °F	25.1 °C (77.1) °F
Precipitation / Rainfall mm (in)	12 (0)	15 (0)	16 (0)	28 (1)	77 (3)	243 (9)	297 (11)	283 (11)	196 (7)	82 (3)	10 (0)	9 (0)
Humidity(%)	59%	51%	41%	39%	53%	69%	83%	85%	84%	76%	64%	62%
Rainy days (d)	2	2	2	5	9	15	19	20	16	7	1	1
avg. Sun hours (hours)	9.2	9.7	10.6	11.2	11.1	9.9	7.9	7.4	7.6	8.6	9.2	9.1

(Source: https://weatherandclimate.com/india/jharkhand/Seraikela-Kharsawan*)*

9 DETAILS OF MINING LEASES IN THE DISTRICT

Table 9-1:- Details of Mining Leases in the District

Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		2nd renewal Period of Mining Lease		Date of Commencement of mining operation	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral Reserve (TON)
						From	To	From	To							
1	Quartzite	M/s Balaji Infocom Proprietor Manish Agarwal	BANDARI SAI PLOT NO-1112, 1113, 1111, 1093, 1114, & 1092,	2352/2237 14.08.2017	0.460	14.08.2017	13.08.2027				Working	Captive	EC/DEIAA/SARAIKELA/16-17/47, Order date 21 Mar 2017, valid up to 17 Sep 2027	Location-Bhandarisai Block-Saraikela N - 22°37'59.34" to 22°37'48.16" E - 85°55'40.36" to 85°55'29.19"	Opencast	1227501

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2	Stone	M/s Kiran Enterprises (010311 0602)	BIDRI PLOT-1117P	19.07.2015	1.49	19.07.2015	18.07.2025				Working	Captive	EC/DEIAA/SKL/2016-17/31/DEIAA, Order date 17 Oct 2016, Valid up to 19 July 2025	Location- Bidri Block-Saraikela 22° 39' 56.71" N 86° 09' 47.08" E 22° 39' 55.12" N 86° 09' 52.18" E	Opencast	3839 410
3	Stone	Md. Mustafa Ansari (010306 1901)	JORDIHA PLOT-509P KHATA-265	2244/2132 30.12.2016	3.320	13.08.2017	12.08.2027				Working	Captive	SARAIKELA/2016-17/33/DEIAA, Order dt. 17 Oct 2016, Valid upto 12 Aug 2027.	Location- Joddiha Block-Saraikela N - 22°36'36.9" to 22°36'29.8" E- 85°55'18.2" to 85°55'17.7"	Opencast	4204 110

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4	Stone	M/s Laxmi Enterprises (0103373101)	BADKANKI PLOT-11, 12(p), 13, 14, & 15(p),	29.09.2011	4.710	24.09.2020	31.03.2022				Working	Captive	Letter No- 2378, Order dt. 30 Dec 2015, Valid upto 24 Sep 2020	Location-Katanga Block-Saraikela 22° 36' 59.0" N 85° 56' 01.5" E 22° 36' 58.0" N 85° 56' 24.0" E 22° 36' 53.0" N 85° 56' 02.0" E 22° 36' 54.0" N 85° 56' 24.5" E	Opencast	5373291
5	Stone	Bhagwati Stone Crusher (0103370601)	MEDKI PLOT-703P	18.06.2016	2.020	18.06.2016	17.06.2026				Working	Captive	EC/SEIA/2015-16/1181/2015/2003, Order dt. 30 Nov 2015, Valid upto 18 Jun 2026	Location-Medki Block-Saraikela 22° 36' 17.4" N 85° 54' 57.0" E 22° 36' 13.0" N 85° 54' 57.0" E 22° 36'	Opencast	1304472

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														15.3" N 85° 55' 02.4" E 22° 36' 13.1" N 85° 55' 00.7" E		
6	STONE	M/s Leading Construction (0103374201)	SOSOMULI PLOT NO - 132, KHATA NO - 93	2753 dt 01 Sep 2015	2.250	19.09.2015	18.09.2025				Working	Captive	EC/SEIAA/2015-16/894/2015/1290 Order dt. 17 Aug 2015, Valid upto 16 Aug 2025	Location-Sosomuli, 22°41'21.58" N 86°07'8.6" E 22°41'16.10" N 86°07'9.73" E	Opencast	**1220049**
7	Stone	M/s Leading Construction (0103616002)	RAYDIH PLOT-117 KHATA-37	1888/1792 30.12.2016	2.160	17.08.2017	16.08.2027				Working	Captive	EC/DEIAA/SARAIKELA/2016-17/28, Order dt. 17 Oct 2016, Valid upto 16 Aug 2027	Location-Raidih Block-Saraikela 22° 41' 21.58" N 86° 07' 8.6" E 22° 41' 16.10" N 86° 07' 9.73" E 22° 41' 20.10"	Opencast	**2960634**

														N 86° 07' 20.10" E 22° 41' 14.52" N 86° 07' 11.05" E		
8	Stone	M/s Singhdeo Minerals (0103052201)	BARGAON PLOT-142 A	295 29.02.2016	2.430	23.11.2015	28.02.2026				Working	Captive	EC/SEIAA/15-16/1381/2015/1807, Order dt. 23 Nov 2015, Valid upto 28 Feb 2026	Location - Badagaon Block - Kharsawan 22° 46' 50.2" N 85° 53' 28.7" E 22° 46' 50.2" N 85° 53' 25.5" E	Opencast	472678
9	Quartzite	Rajashri Pati (0103515301)	JAIKAN PLOT-1304 KHATA-141	27.01.2016	1.34	27.01.2016	26.01.2026				Working	Captive	EC/SEIAA/2015-16/976/2015/1621, Order dt. 30 Sep 2015, Valid upto 26 Jan 2026	Location - Jaikan Block - Gamharia 22° 42' 49.74" N 86° 06' 45.49" E 22° 42' 46.08"	Opencast	69615

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													N 86° 06' 47.21" E		
10	Quartzite	Shri Pradeep Singh (0103253601)	CHHOTA KUNDABERA PLOT-84 KHATA-98	2050/1945 17.08.2017	2.752	21.03.2017	18.09.2027				Working	Captive	EC/DEIAA/SKL/2016-17/52, Order dt. 21 Mar 2017, Valid upto 18 Sep 2027.	Location - Chota Kunabera Block - Rajnagar 22° 42' 38.05" N 86° 6' 53.81" E	Opencast	331328
11	Pot Stone	Shree Sai Minerals (0103108601)	MURUNMDIH PLOT-926	2207/2099 14.08.2017	0.790	21.03.2017	18.09.2027				Working	Captive	EC/DEIAA/SARAIKELA/2016-17/49, Order dt. 21 Mar 2017, Valid upto 18 Sep 2027.	Location- Murumdih Block- Rajnagar 22° 37' 28.95" N 85° 59' 33.02" E	Opencast	73910
12	Stone	Shaligram Infrastructures Pvt Ltd 0103486901	RAVANKOCHA PLOT-491P	22.07.2016	2.27	27.07.2015	21.07.2026				Working	Captive	EC/SEIAA/2015-16/714/2015/1152, Order dt. 27 July 2015,	Location- Rabankocha Block- Rajnagar 22° 35'	Opencast	491239

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														49.12" N 86° 1' 46.16" E		
13	Stone	MATA ENTERPRISES 0103406203	CHHOTA TANGRANI PLOT-52,74,142	2732 05.12.2016	1.940	11.09.2017	10.09.2027				Working	captive	EC/DEIAA/16-17/48 21.03.17	N 22°41' 19.40" to N 22°41' 24.40" E 85°54' 24.20" to E 85°54' 32.20"	Opencast	**1222223**
14	STONE	Aarohi Impex & Trade Links	TENTOPSI PLOT-1112P	444/G 02.03.21	1.820	28.03.2023	31.08.2025				Working	captive	EC/SEIAA/242 DT- 09.09.22	22° 43,25.25" N 86° 01' 40.28" E	Opencast	**1262495**
15	Quartzite	SANDEEP KARMAKAR	CHHOTATANGRANI PLOT-84P	959 18.08.17		07.11.2017	06.11.2027				Working	captive	EC/DEIAA/26 DT 07.04.18	22° 43,45.32" N 86° 06' 55.08" E	Opencast	**52904**
16	SOAPSTONE	GANGA ENGINEERING	BRAHMANDANGRI PLOT-2,34 KHATA-1,10	14 06.01.23	31.360	16.03.2005	15.03.2025				Working	captive	EC/SEIAA/366 DT- 02.11.23	22° 43,8.204" N 86° 08' 35.837" E	Opencast	695506
17	STONE	Kolhan Infrastructure and Mining Pvt. Ltd.	TANGJORA PLOT-820(p), 846(p), 817, 819,	LETTER NO-238/M, DT	3.07	08.04.2023	07.03.2028				Working	captive	EC/SEIAA/2023-24/2918/2023/302 DT 06 Oct 2023 Valid Upto07 Apr 2028	22°39'58.15" to 22°40'08.27,N 86°07'16.99" to	Opencast	98260

			844, 845 & 847,	20.04.2023									86°07'25.01"		
18	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	RUDIYA PLOT NO - 2381(p), 2382, 2383 & 2384 & KATIYA POLT NO - 05, 08 & 09	LETTER NO-862/M, DT 24.11.2022	1.50	05.12.2022	02.02.2032				Working	captive	ECSEIAA/2022-23/2635/2022/245 DT 02.09.2022	22°55'05.98" N to 22°55'10.06" N 86°01'53.95" E to 86°02'01.24" E	Opencast	335189.95
19	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	UGMA , PLOT NO - 207, 208(p) & 219(p),	LETTER NO-2165/2057 DT 13.11.2017	2.15	19.09.2017	18.09.2027				Working	captive	EC/DEIAA/SARAIKELA/2016-17/50 DT 21.03.2017	N 22°43'30.20" to N 22°43'37.57" E 86°02'0.80" to E 86°02'11.47"	Opencast	40693.73
20	STONE	Bhagwati stone crusher (0103370602)	MEDKI PLOT-703P	LETTER NO-2401/2285 DT 16.11.2017	1.65	12.09.2017	11.09.2027				Working	captive	EC/SEIAA/2023-24/2792/2023/56 DT 02.05.2023	22°36'11.30" N 85°54'54.18" E 22°36'14.54" N 85°55'04.37" E	Opencast	84423.13

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21	Stone	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	BHADUDIH PLOT-2261(P), 2241, 2242	LETTER NO-2754 DT 18.08.2017	1.87	19.09.2015	18.09.2025				Temporarily Discontinued	Captive	EC/DEIAA/SARAIKELA/2016-17/50 Order date 21 Mar 2017, valid up to 18 Sep 2027	Location-Bhaduduih Block-Chandil N - 22°54'36.3" to 22°54'40.8" E-86°05'35.3" to 86°05'40"	Opencast	308767
22	STONE	SHRI ARUN KUMAR TUDU (0103244701)	CHOTALAKHA PLOTNO-1745, 1746 & 1747,	LETTER NO-541/M, DT 23.06.2022	1.22	25.07.2022	30.06.2025				Working	captive	EC/SEIAA/2021-22/2472/2021/09 DT 16.04.2022	22°54'56.69" to 22°55'01.50" 86°04'20.41" to 86°04'24.99"	Opencast	350000.34

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10 DETAILS OF ROYALTY OR REVENUE RECEIVED IN LAST FIVE YEARS

Table 10-1:- ROYALTY OR REVENUE RECEIVED

DISTRICT	FY	ROYALTY COLLECTION IN (Rs.)
Saraikela Kharsawan	2019-20	180614227.4
	2020-21	131795378.7
	2021-22	131012028.2
	2022-23	164238175.3
	2023-24	225229372.2
TOTAL		**832889181.8**

(Source District Mining Office)

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11 DETAILS OF PRODUCTION OF MINOR MINERALS IN LAST FIVE YEARS

Table 11-1:- PRODUCTION & DISPATCH

DISTRICT	FY	PRODUCTION In (cft)	DISPATCH In (cft)
Saraikela Kharsawan	2019-20	15459725.12	16857883.52
	2020-21	11420972.02	10765308.49
	2021-22	11320623	12096532
	2022-23	14248322	13991259
	2023-24	20408985	13728146
TOTAL		**72858627.14**	**67439129**

(Source District Mining Office)

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12 MINERAL MAP OF THE DISTRICT

12.1 Mineral Wealth

There is immense possibility of establishment and development of mineral based industries in the district. The richness of the district and the socio–economic development of the entire district, largely depend on the scientific exploration and judicious utilization of its mineral resources. Therefore, the mining department at the district level was established to explore various minerals, regulate mining and to generate income from mineral exploitation.

Saraikela-Kharsawan district has major and minor Minerals abundance.

The main mineral resources found in Seraikela-Kharsawan district are Stone Quartz, Quartzite, Sand, Pyrophyllite, Pot Stone, Soapstone, Brick, Pyroxenite.

- **Quartz:**

Quartz is one of the most common minerals in the Earth's crust. As a mineral name, quartz refers to a specific chemical compound (silicon dioxide, or silica, SiO_2), having a specific crystalline form (hexagonal). It is found is all forms of rock: igneous, metamorphic and sedimentary. Quartz is physically and chemically resistant to weathering. When quartz-bearing rocks become weathered and eroded, the grains of resistant quartz are concentrated in the soil, in rivers, and on beaches. The white sands typically found in river beds and on beaches are usually composed mainly of quartz, with some white or pink feldspar as well.

- Quartzite

Quartzite is a metamorphic rock derived from sandstone that is distinguished from sandstone by its fracture. Sandstone breaks along grain boundaries, whereas quartzite is so well indurated (hardened) that it breaks across constituent grains. The intense heat and pressure of metamorphism causes the quartz grains to compact and become tightly intergrown with each other, resulting in very hard and dense quartzite.

- Pyrophyllite

Pyrophyllite is a rarer phyllosilicate, specific to some types of metamorphic rocks. It is an important industrial mineral, an ore with many different applications whose price depends on the alumina content, other associated minerals and the Fe content, considered an impurity. It is desirable and necessary to remove Fe from the ore until the content is less than 1%.

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It is classified in the Pyrophyllite-Talc Group and is the Al analogue of ferrypyrophyllite. A monoclinic and a triclinic polytype are known. There are three varieties (with Fe oxides, with Cr, in gel). The identification of pyrophyllite by microscopy is problematic, and it is necessary to combine the use of stereomicroscopy, Transmitted Light microscopy and Reflected Light microscopy with other analytical techniques such as Scanning Electron Microscopy, X-Ray Diffractometry, Fourier Transform Infrared Spectroscopy, Thermogravimetry and wet chemical analysis.

- Pyroxenite

Pyroxenite is an ultramafic igneous rock that contain pyroxene group minerals such as augite, diopside, hypersthene, bronzite or enstatite. This is a coarse-grained rock and that contains at least 90 percent pyroxene minerals. Also Pyroxenite contain olivine and oxide minerals, when it occurs in layered intrusions or nepheline. It is hard and heavy rock and color is light green. Single crystals may be 3 inc or more in lenght. Pyroxenites are usually found with gabbros and peridotites. There are three type of pyroxenite rock that areclinopyroxenites, orthopyroxenites, and the websterites.

Color: Light green, dark green, or black.

Anorthosite forms a large crescent shaped outcrop near Saraikela-Kharsawan. Minor bodies occur as concordant band in Gneisses and also as a Pigmatatic intrusive vain in a Pyroxene Granulite band

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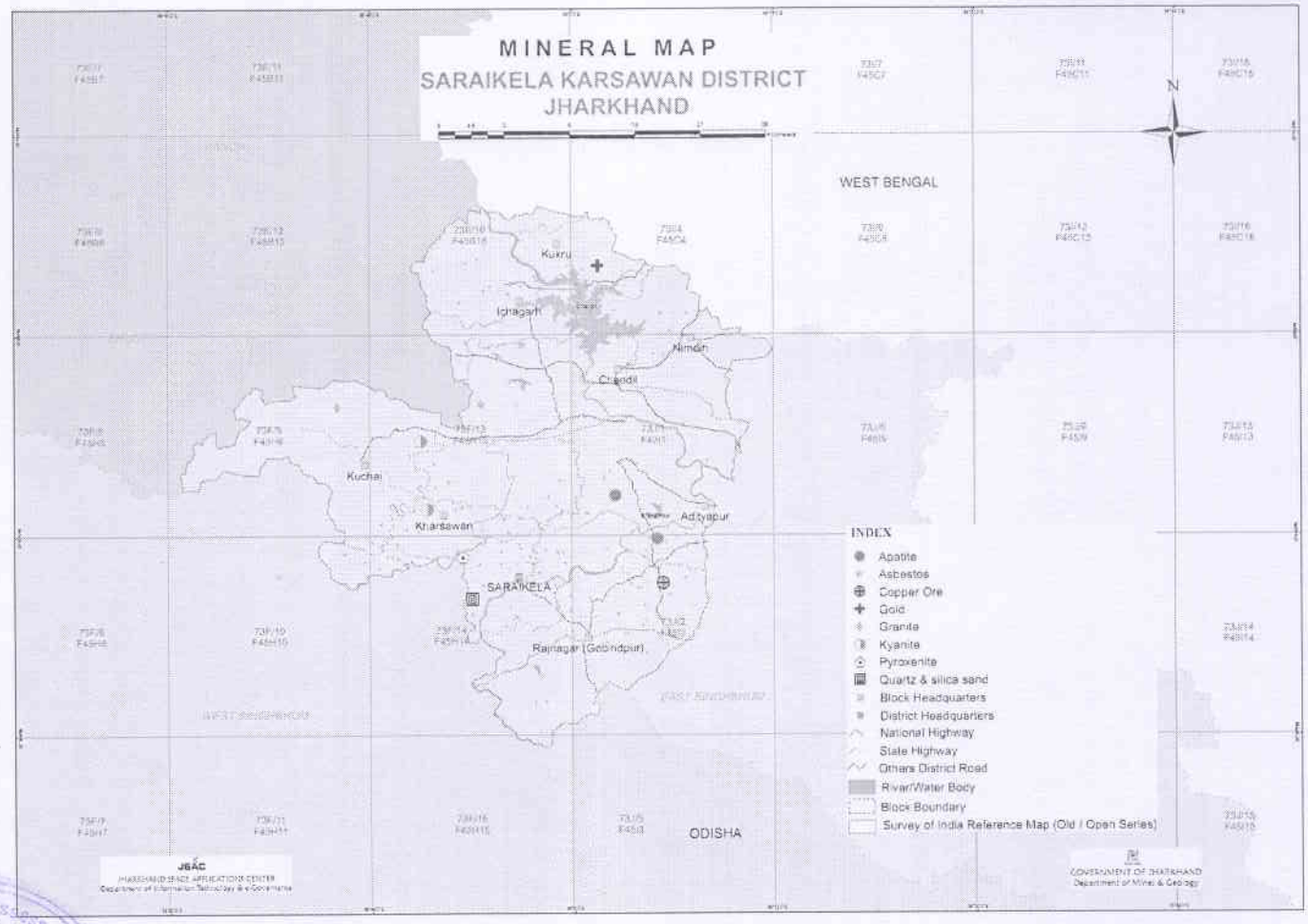

Figure 12-1:- Mineral Map Saraikela-Kharsawan district

(Source: saraikela.nic.in)

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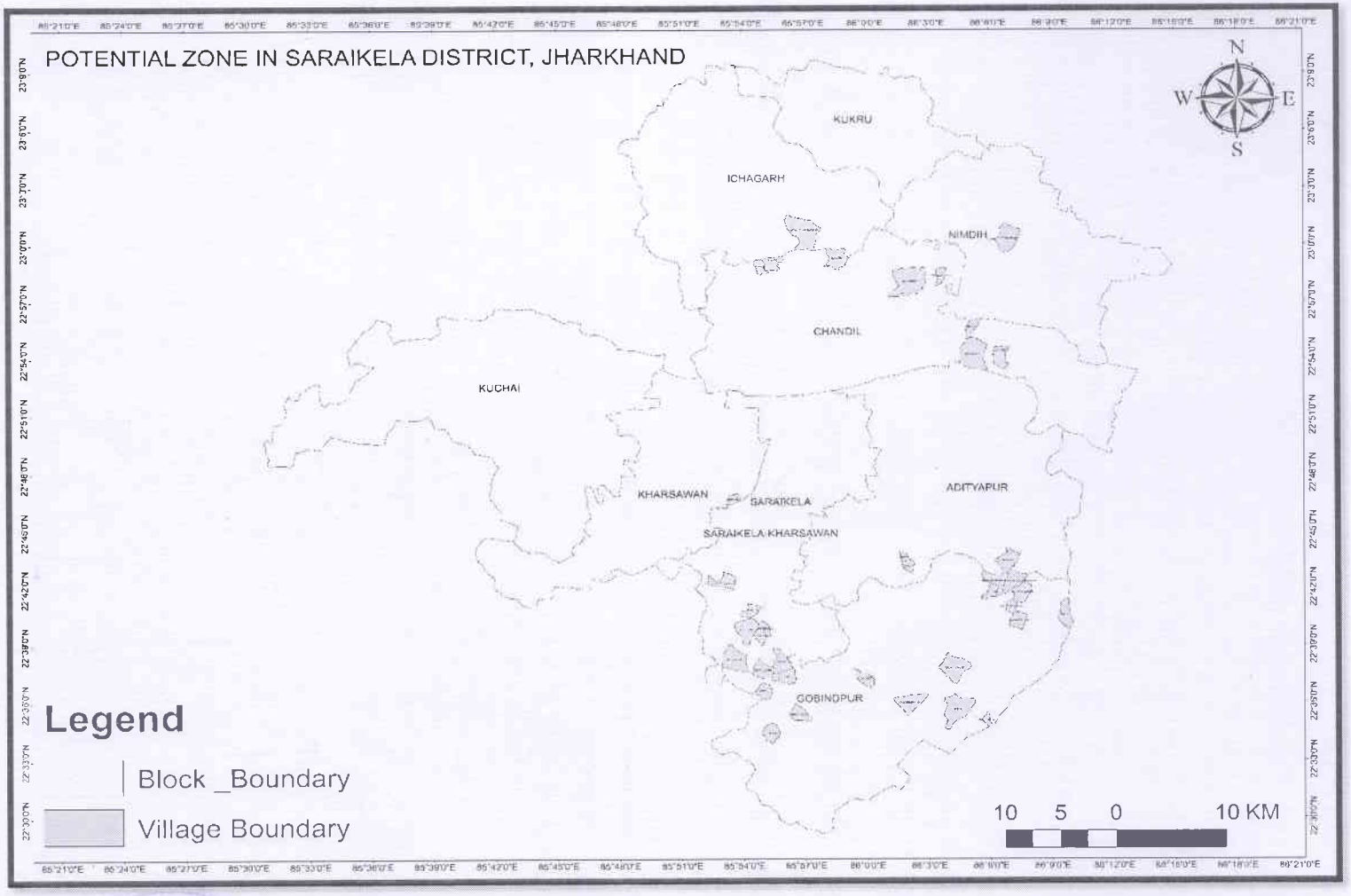

Figure 12-2:- Potential Zone Map of district

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Table 12-1:- Potential Area Details

S.no	VILLAGE	TEHSIL	DISTRICT
1	JAIKAM	ADITYAPUR	SARAIKELA-KHARSAWAN
2	RAIDIH	ADITYAPUR	SARAIKELA-KHARSAWAN
3	UGMA	ADITYAPUR	SARAIKELA-KHARSAWAN
4	KOLABIRA	ADITYAPUR	SARAIKELA-KHARSAWAN
5	RAYADIH	CHANDIL	SARAIKELA-KHARSAWAN
6	SIDDIH	CHANDIL	SARAIKELA-KHARSAWAN
7	LENGDIH	CHANDIL	SARAIKELA-KHARSAWAN
8	KANGLATANR	CHANDIL	SARAIKELA-KHARSAWAN
9	GANGUDIH	CHANDIL	SARAIKELA-KHARSAWAN
10	JOREYADIH	CHANDIL	SARAIKELA-KHARSAWAN
11	CHILGO	CHANDIL	SARAIKELA-KHARSAWAN
12	BHADUDIH	CHANDIL	SARAIKELA-KHARSAWAN
13	CHHOTA LAKHA	CHANDIL	SARAIKELA-KHARSAWAN
14	RUDIH	CHANDIL	SARAIKELA-KHARSAWAN
15	BARA KUNABERA	GOBINDPUR	SARAIKELA-KHARSAWAN
16	SOSODIH	GOBINDPUR	SARAIKELA-KHARSAWAN
17	CHOTA KUNABERA	GOBINDPUR	SARAIKELA-KHARSAWAN
18	BALARAMPUR	GOBINDPUR	SARAIKELA-KHARSAWAN
19	BIDRI	GOBINDPUR	SARAIKELA-KHARSAWAN
20	PADNAM SAHI	GOBINDPUR	SARAIKELA-KHARSAWAN
21	TANGARJORA	GOBINDPUR	SARAIKELA-KHARSAWAN
22	GOBINDPUR	GOBINDPUR	SARAIKELA-KHARSAWAN
23	MUCHIASAI	GOBINDPUR	SARAIKELA-KHARSAWAN
24	JUMAL	GOBINDPUR	SARAIKELA-KHARSAWAN
25	RABANKOCHA	GOBINDPUR	SARAIKELA-KHARSAWAN
26	MURUMDIH	GOBINDPUR	SARAIKELA-KHARSAWAN
27	PATKA	GOBINDPUR	SARAIKELA-KHARSAWAN
28	CHOTA BANA	GOBINDPUR	SARAIKELA-KHARSAWAN
29	UTIDIH	GOBINDPUR	SARAIKELA-KHARSAWAN
30	DHOLADIH	GOBINDPUR	SARAIKELA-KHARSAWAN
31	KERKI	GOBINDPUR	SARAIKELA-KHARSAWAN
32	BHURKULI	GOBINDPUR	SARAIKELA-KHARSAWAN
33	BHARATPUR	GOBINDPUR	SARAIKELA-KHARSAWAN
34	BALARAMPUR	GOBINDPUR	SARAIKELA-KHARSAWAN
35	CHHOTA KHIRI	GOBINDPUR	SARAIKELA-KHARSAWAN
36	SOSOMULI	GOBINDPUR	SARAIKELA-KHARSAWAN
37	NAGADI	GOBINDPUR	SARAIKELA-KHARSAWAN
38	BARSASAI	GOBINDPUR	SARAIKELA-KHARSAWAN
39	TEASARA	GOBINDPUR	SARAIKELA-KHARSAWAN
40	JHALAK	GOBINDPUR	SARAIKELA-KHARSAWAN
41	RANGAMATIA	GOBINDPUR	SARAIKELA-KHARSAWAN
42	KATANGA	GOBINDPUR	SARAIKELA-KHARSAWAN
43	GAURANG KOCHA	ICHAGARH	SARAIKELA-KHARSAWAN
44	BARA AMRA	ICHAGARH	SARAIKELA-KHARSAWAN
45	BAGRAIDIH	KHARSAWAN	SARAIKELA-KHARSAWAN
46	BERASISIRAM	KUKRU	SARAIKELA-KHARSAWAN

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47	RAMNAGAR	NIMDIH	SARAIKELA-KHARSAWAN
48	HEBEN	NIMDIH	SARAIKELA-KHARSAWAN
49	PATAHESEL	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN
50	CHOTA	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN
51	SATRUSAL	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN
52	JODDIHA	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN
53	NOADIHI	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN
54	MURKUM	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN
55	KUDARSAI	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN
56	BARA TENGRANI	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN
57	NOAGURA	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN
58	NOAGAON	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN
59	CHOTA LUPUNG	SARAIKELA-KHARSAWAN	SARAIKELA-KHARSAWAN

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13 LIST OF LETTERS OF INTENT HOLDERS IN THE DISTRICT

Table 13-1:- LIST OF LETTERS OF INTENT ISSUED

Sl. No	Name of the Mineral	Name of the lessee	Address & Contact No. of Letter of intent Holder	Letter of Intent Grant Order No. & Date	Area of Mining lease to be allotted	Validity of LoI	Use (Captive/ Non-Captive)	Location of the Mining lease (Latitude & Longitude)
1	STONE	Bhagwati stone Crusher	Pop- Sri Manoj Kumar Add-New Colony Nimdih, PO+PS-Chaibasa Dist- West Singhbhum Mo- 8969821555	Letter-742 Date-23.07.2024	1.24 Ha	10 Years	Non Captive	22°41'17.1564''N 85°54'22.0212''E
2	STONE	Sai Resources pvt ltd	Sri Tarun Kanti ghosh Add- Dugdha, Po-Gamharia, Dist-Saraikela Mo- 9031300007	Letter-84 Date-10.02.2024	1.48 Ha	10 Years	Non Captive	22°37'15.59460''N 85°55'29'14590''E

14 TOTAL MINERAL RESERVE AVAILABLE IN THE DISTRICT

At present, based on existing EC mining leases of Stone and available Mining Plans (**22** registered mining leases), mining operations is not being carrying out to produce a total 25703699.15 Tonnes of Stone in the Saraikela-Kharsawan district. The Letter of Intent (LoI) have been issued to **2** Nos. of applicant for Stone mining in the district. However, there are **15** Nos. of potential Stone deposit have been identified in Saraikela-Kharsawan district.

Table 14-1:- Existing/ Working Mining Lease Details

Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Mineral Reserve
						From	To					Ton
1	Quartzite	M/s Balaji Infocom Proprietor Manish Agarwal	BANDARISAI PLOT NO-1112, 1113, 1111, 1093, 1114, & 1092,	2352/2237 14.08.2017	0.460	14.08.2017	13.08.2027	Working	Captive	EC/DEIAA/SARAIKELA/16-17/47, Order date 21 Mar 2017, valid up to 17 Sep 2027	Location-Bhandarisai Block-Saraikela N - 22°37'59.34" to 22°37'48.16" E - 85°55'40.36" to 85°55'29.19"	1227501

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Mineral Reserve
						From	To					Ton
2	Stone	M/s Kiran Enterprises (0103110602)	BIDRI PLOT-1117P	19.07.2015	1.49	19.07.2015	18.07.2025	Working	Captive	EC/DEIAA/SKL/2016-17/31/DEIAA, Order date 17 Oct 2016, Valid up to 19 July 2025	Location-Bidri Block-Saraikela 22° 39' 56.71" N 86° 09' 47.08" E 22° 39' 55.12" N 86° 09' 52.18" E	3839410
3	Stone	Md. Mustafa Ansari (0103061901)	JORDIHA PLOT-509P KHATA-265	2244/2132 30.12.2016	3.320	13.08.2017	12.08.2027	Working	Captive	SARAIKELA/2016-17/33/DEIAA, Order dt. 17 Oct 2016, Valid upto 12 Aug 2027.	Location-Joddiha Block-Saraikela N - 22°36'36.9" to 22°36'29.8" E- 85°55'18.2" to 85°55'17.7"	4204110

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Mineral Reserve
						From	To					Ton
4	Stone	M/s Laxmi Enterprises (0103373101)	BADKANKI PLOT- 11, 12(p), 13, 14, & 15(p),	29.09.2011	4.710	24.09.2020	31.03.2022	Working	Captive	Letter No- 2378, Order dt. 30 Dec 2015, Valid upto 24 Sep 2020	Location- Katanga Block- Saraikela 22° 36' 59.0" N 85° 56' 01.5" E 22° 36' 58.0" N 85° 56' 24.0" E 22° 36' 53.0" N 85° 56' 02.0" E 22° 36' 54.0" N 85° 56' 24.5" E	5373291
5	Stone	Bhagwati Stone Crusher (0103370601)	MEDKI PLOT- 703P	18.06.2016	2.020	18.06.2016	17.06.2026	Working	Captive	EC/SEIA/2015-16/1181/2015/2003, Order dt. 30 Nov 2015, Valid upto 18 Jun 2026	Location- Medki Block- Saraikela 22° 36' 17.4" N 85° 54' 57.0" E 22° 36' 13.0" N 85° 54' 57.0" E	130447 2

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Mineral Reserve
						From	To					Ton
											22° 36' 15.3" N 85° 55' 02.4" E 22° 36' 13.1" N 85° 55' 00.7" E	
6	STONE	M/s Leading Construction (0103374201)	SOSOMULI PLOT NO - 132, KHATA NO - 93	2753 dt 01 Sep 2015	2.250	19.09.2015	18.09.2025	Working	Captive	EC/SEIAA/2015-16/894/2015/1290 Order dt. 17 Aug 2015, Valid upto 16 Aug 2025	Location-Sosomuli, 22°41'21.58" N 86°07'8.6" E 22°41'16.10" N 86°07'9.73" E	1220049

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Mineral Reserve
						From	To					Ton
7	Stone	M/s Leading Construction (0103616002)	RAYDIH PLOT-117 KHATA-37	1888/1792 30.12.2016	2.160	17.08.2017	16.08.2027	Working	Captive	EC/DEIAA/SARAIKELA/2016-17/28, Order dt. 17 Oct 2016, Valid upto 16 Aug 2027	Location-Raidih Block-Saraikela 22° 41' 21.58" N 86° 07' 8.6" E 22° 41' 16.10" N 86° 07' 9.73" E 22° 41' 20.10" N 86° 07' 20.10" E 22° 41' 14.52" N 86° 07' 11.05" E	2960634
8	Stone	M/s Singhdeo Minerals (0103052201)	BARGAON PLOT-142 A	295 29.02.2016	2.430	23.11.2015	28.02.2026	Working	Captive	EC/SEIAA/15-16/1381/2015/1807, Order dt. 23 Nov 2015, Valid upto 28 Feb 2026	Location - Badagaon Block - Kharsawan 22° 46' 50.2" N 85° 53' 28.7" E 22° 46' 50.2" N 85° 53' 25.5" E	472678

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Mineral Reserve
						From	To					Ton
9	Quartzite	Rajashri Pati (0103515301)	JAIKAN PLOT-1304 KHATA-141	27.01.2016	1.34	27.01.2016	26.01.2026	Working	Captive	EC/SEIAA/2015-16/976/2015/1621, Order dt. 30 Sep 2015, Valid upto 26 Jan 2026	Location - Jaikan Block - Gamharia 22° 42' 49.74" N 86° 06' 45.49" E 22° 42' 46.08" N 86° 06' 47.21" E	69615
10	Quartzite	Shri Pradeep Singh (0103253601)	CHHOTA KUNDABERA PLOT-84 KHATA-98	2050/1945 17.08.2017	2.752	21.03.2017	18.09.2027	Working	Captive	EC/DEIAA/SKL/2016-17/52, Order dt. 21 Mar 2017, Valid upto 18 Sep 2027.	Location - Chota Kunabera Block - Rajnagar 22° 42' 38.05" N 86° 6' 53.81" E	331328
11	Pot Stone	Shree Sai Minerals (0103108601)	MURUNMDIH PLOT-926	2207/2099 14.08.2017	0.790	21.03.2017	18.09.2027	Working	Captive	EC/DEIAA/SARAIKELA/2016-17/49, Order dt. 21 Mar 2017, Valid upto 18 Sep 2027.	Location- Murumdih Block- Rajnagar 22° 37' 28.95" N 85° 59' 33.02" E	73910

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Mineral Reserve
						From	To					Ton
12	Stone	Shaligram Infrastructures Pvt Ltd 0103486901	RAVANKOCHA PLOT-491P	22.07.2016	2.27	27.07.2015	21.07.2026	Working	Captive	EC/SEIAA/2015-16/714/2015/1152, Order dt. 27 July 2015,	Location-Rabankocha Block-Rajnagar 22° 35' 49.12" N 86° 1' 46.16" E	491239
13	Stone	MATA ENTERPRISES 0103406203	CHHOTA TANGRANI PLOT-52,74,142	2732 05.12.2016	1.940	11.09.2017	10.09.2027	Working	captive	EC/DEIAA/16-17/48 21.03.17	N 22°41'19.40" to N 22°41'24.40" E 85°54'24.20" to E 85°54'32.20"	122222 3
14	STONE	Aarohi Impex & Trade Links	TENTOPSI PLOT-1112P	444/G 02.03.21	1.820	28.03.2023	31.08.2025	Working	captive	EC/SEIAA/242 DT-09.09.22	22° 43,25.25" N 86° 01' 40.28" E	126249 5
15	Quartzite	SANDEEP KARMAKAR	CHHOTATANGRANI PLOT-84P	959 18.08.17		07.11.2017	06.11.2027	Working	captive	EC/DEIAA/26 DT 07.04.18	22° 43,45.32" N 86° 06' 55.08" E	52904
16	SOAPSTONE	GANGA ENGINEERING	BRAHMANDANGRI	14 06.01.23	31.360	16.03.2005	15.03.2025	Working	captive	EC/SEIAA/366 DT-02.11.23	22° 43,8.204" N 86°	695506

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Mineral Reserve
						From	To					Ton
			PLOT-2,34 KHATA-1,10								08' 35.837" E	
17	STONE	Kolhan Infrastructure and Mining Pvt. Ltd.	TANGJORA PLOT-820(p), 846(p), 817, 819, 844, 845 & 847,	LETTER NO-238/M, DT 20.04.2023	3.07	08.04.2023	07.03.2028	Working	captive	EC/SEIAA/2023-24/2918/2023/302 DT 06 Oct 2023 Valid Upto07 Apr 2028	22°39'58.15" to 22°40'08.27,N 86°07'16.99" to 86°07'25.01"	98260
18	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	RUDIYA PLOT NO - 2381(p), 2382, 2383 & 2384 & KATIYA POLT NO - 05, 08 & 09	LETTER NO-862/M, DT 24.11.2022	1.50	05.12.2022	02.02.2032	Working	captive	ECSEIAA/2022-23/2635/2022/245 DT 02.09.2022	22°55'05.98" N to 22°55'10.06" N 86°01'53.95" E to 86°02'01.24" E	335189.95
19	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	UGMA , PLOT NO - 207, 208(p) & 219(p),	LETTER NO-2165/2057 DT 13.11.2017	2.15	19.09.2017	18.09.2027	Working	captive	EC/DEIAA/SARAIKELA/2016-17/50 DT 21.03.2017	N 22°43'30.20" to N 22°43'37.57" E 86°02'0.80" to E 86°02'11.47"	40693.73

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Mineral Reserve
						From	To					Ton
20	STONE	Bhagwati stone crusher (0103370602)	MEDKI PLOT- 703P	LETTER NO-2401/2285 DT 16.11.2017	1.65	12.09.2017	11.09.2027	Working	captive	EC/SEIAA/2023-24/2792/2023/56 DT 02.05.2023	22°36'11.30" N 85°54'54.18" E 22°36'14.54" N 85°55'04.37" E	84423.13
21	Stone	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	BHADUDIH PLOT-2261(P), 2241, 2242	LETTER NO-2754 DT 18.08.2017	1.87	19.09.2015	18.09.2025	Temporarily Discontinued	Captive	EC/DEIAA/SARAIKELA/2016-17/50 Order date 21 Mar 2017, valid up to 18 Sep 2027	Location-Bhadudih Block-Chandil N - 22°54'36.3" to 22°54'40.8" E- 86°05'35.3" to 86°05'40"	308767
22	STONE	SHRI ARUN KUMAR TUDU (0103244701)	CHOTALAKHA PLOTNO-1745, 1746 & 1747,	LETTER NO-541/M, DT 23.06.2022	1.22	25.07.2022	30.06.2025	Working	captive	EC/SEIAA/2021-22/2472/2021/09 DT 16.04.2022	22°54'56.69" to 22°55'01.50" 86°04'20.41" to 86°04'24.99"	35000.34

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease (Initial)		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Mineral Reserve
						From	To					Ton
											Total	25703699

**The above mineral reserve/ resource is as per approved mining plan of the respective mining leases.*

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15 QUALITY/GRADE OF MINERAL AVAILABLE IN THE DISTRICT

- **QUARTZITE AND QUARTZ SCHIST:**

Quartzite is a hard, non-foliated metamorphic rock which was originally pure Quartz Sandstone. Sandstone is converted into Quartzite through heating and pressure usually related to tectonic compression within orogenic belts. Pure Quartzite is usually white to grey, though Quartzites often occur in various shades of pink and red due to varying amounts of iron oxide (Fe2O3). Other colors, such as yellow, green, blue and orange, are due to other minerals. When Sandstone is cemented to Quartzite, the individual Quartz grains recrystallize along with the former cementing material to form an interlocking mosaic of Quartz crystals. Most or all of the original texture and sedimentary structures of the Sandstone are erased by the metamorphism. The grainy, sandpaper-like surface becomes glassy in appearance. Minor amount of former cementing materials, iron Oxide, Silica, Carbonate and Clay, often migrate during recrystallization and metamorphosis. This causes streaks and lenses to form within the quartzite. Ortho-Quartzite is a very pure Quartz Sandstone composed of usually well-rounded Quartz grains cemented by Silica. Ortho-Quartzite is often 99% SiO2 with only very minor amounts of Iron oxide and trace resistant minerals such as Zircon, Rutile and Magnetite. Although few fossils are normally present, the original texture and sedimentary structures are preserved. The term is also traditionally used for Quartz-cemented Quartz Arenites, and both usages are found in the literature. The typical distinction between the two (since each is a gradation into the other) is a metamorphic Quartzite is so highly cemented, diagenetically altered, and metamorphosed so that it will fracture and break across grain boundaries, not around them. Quartzite is very resistant to chemical weathering and often forms ridges and resistant hilltops. The nearly pure Silica content of the rock provides little for Soil; therefore, the Quartzite ridges are often bare or covered only with a very thin layer of Soil and (if any) little vegetation.

Quartz Schist is a metamorphosed schistose rock composed essentially of Quartz often with some mica or tourmaline or both. Schist is a medium-grade metamorphic rock. Quartz often occurs in drawn-out grains to such an extent that a particular form called Quartz Schist is produced. Schist forms at a higher temperature and has larger grains than Phyllite.

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16 USE OF MINERAL

Stones form one of the most important building materials in civil engineering. Stones are derived from rocks, which form the earth's crust and have no definite shape or chemical combination but are mixtures of two or more minerals. The mineral is a substance which is formed by the natural inorganic process and possesses a definite chemical combination and molecular structure. They are strong, durable and descent in appearance. Stone is an essential and more permanent building material in construction than other natural building materials. Based on the type, Stones can be used in buildings for flooring, roofing, masonry paving roads and also as aggregates foe concrete. Most of the prehistoric monuments are built with natural Stones as they remain stable with time. Before the advent of concrete Stones were highly preferred for heavy engineering works like bridge piers, harbor walls, sea side walls and for facing works. Stones for construction purposes are obtained by quarrying from solid massive rocks. The Stone used for masonry construction should be hard, durable, tough and should be free from weathered soft patches of material, cracks and other defects that are responsible for the reduction of strength and durability.

Types of Building Stones

Some of the common building stones which are used for different purposes in India are as follows: -

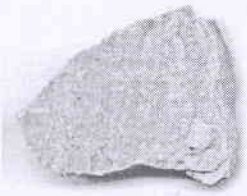
Sandstone

This Stone is another form of sedimentary rock formed by the action of mechanical sediments. It has a sandy structure which is low in strength and easy to dress.

They are used for ornamental works, paving and as road metal.

Quartzite

It is a metamorphic rock which is hard, brittle, crystalline and durable.



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Uses of Building Stones

The Stones used for various types of works are as follows:

- Fine-grained Granite and Gneiss Stones are used for heavy engineering works such as building bridge piers, breakwaters, monuments etc.
- Granite Quartzite and compact Sandstones are used for masonry works in industrial areas exposed to smoke and fumes.
- Granite and Sandstones are used for facing work of buildings.
- Limestone and Sandstone are used for general building works.
- Fine-grained Granite, Marble and soft Sandstones are used for carving and ornamental works.
- Compact Limestone and Sandstones are used for fire-resistant masonry.
- Granite, Quartzite Stones are used in foundations of building in place with high groundwater level.
- Slate, Sandstone and Granite Stones are used for floor pavings.

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17 DEMAND AND SUPPLY OF THE MINOR MINERAL IN LAST THREE YEARS

In the present scenario, the stone boulders & chips have good market in all regions of the country for construction of buildings, roads, bridges, railway line and other constructional purposes. As such there are huge infrastructural activities such as road, building, railways are coming up by Govt. of India & PSUs under "Make in India" programme. The production of stone boulders & chips are the main raw minerals for the above activities and considering the last three years' actual production of Saraikela-Kharsawan with respect to the requirement of the State has a huge gap. It is proposed to start the stone production from larger areas to at least double the production of the district which will enhance the revenue of the district and also support the livelihood of the local people.

The mining project will also bring economic benefits to the State by the ways of royalty of stone as well as benefit to the lessee. It will help in general of employment in rural areas in Jharkhand State where tribal people are starving due to unemployment. A single mining project shall be providing employment to approximately 10 to 20 people of the poorest section of the society and benefitting more than 50 to 60 people indirectly. Further, infrastructure development will help in development of nation. Socio-economic condition of the area will be improved as mining activity will create additional employment for the local habitants for raising their socio-economic status. Significant contribution will be made by lessee towards societal development of the surrounding area in the form of CSR fund.

There is a huge demand of stone chips for domestic and infrastructure sector. Only a few stone mines have environmental clearance for extraction of stone. There is limited supply of stone and there is huge gap. Due to construction of roads and public buildings for development works in the district a large number of stone chips & boulders are required. This will meet only by granting new leases in the district. The major part of the stone mineral will be supplied to the private and Government projects of RCD, PWD work, canal work & government building, Pradhan Mantri Awas Yojana (PMAY), Mukhyamantri Gramya Setu Yojana (MGSY) etc.

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DISTRICT	FY	PRODUCTION In (cft)	DISPATCH In (cft)
Saraikela Kharsawan	2019-20	15459725.12	16857883.52
	2020-21	11420972.02	10765308.49
	2021-22	11320623	12096532
	2022-23	14248322	13991259
	2023-24	20408985	13728146
TOTAL		**72858627.14**	**67439129**

In the present scenario, the Stone boulders & chips have good market in all regions of the country for construction of buildings, roads, bridges, railway line and other constructional purposes. As such there are huge infrastructural activities such as road, building, railways are coming up by Govt. of India & PSUs under "Make in India" programme. The production of Stone boulders & chips are the main raw minerals for the above activities and considering the last three years' actual production with respect to the requirement of the State has a huge gap. It is proposed to start the Stone production from larger areas to at least double the production of the district which will enhance the revenue of the district and also support the livelihood of the local people.

Based on the revenue report for last 5 years 2020 to 2024 there is an increase in demand of ordinary Stone. Low demand of stone in year 2020 and 2022 is due to impact of Covid-19. The rational demand projected 6.5% to 7% till March 2025 as per the economic survey 2023-24 report.

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18 MINING LEASES MARKED ON THE MAP OF THE DISTRICT

As per record of Saraikela-Kharsawan District Mining Office, 57 Stone mining leases are registered out of which only 49 mining leases are in EC granted operational in current. The location of mining leases is given in Table 20.1 & Figure: 20.1: Location of Mining Lease in the Map of Saraikela-Kharsawan district.

Table 18-1:- Location of Mining Lease in the Saraikela-Kharsawan district.

Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Status (Working/Non Working /Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)
1	Quartzite	M/s Balaji Infocom Proprietor Manish Agarwal	BANDARI SAI PLOT NO-1112, 1113, 1111, 1093, 1114, & 1092,	2352/2237 14.08.2017	0.460	Working	Captive	EC/DEIAA/SARAIKELA/16-17/47, Order date 21 Mar 2017, valid up to 17 Sep 2027	Location- Bhandarisai Block- Saraikela N - 22°37'59.34" to 22°37'48.16" E - 85°55'40.36" to 85°55'29.19"
2	Stone	M/s Kiran Enterprises (01031106 02)	BIDRI PLOT-1117P	19.07.2015	1.49	Working	Captive	EC/DEIAA/SKL/2016-17/31/DEIAA, Order date 17 Oct 2016, Valid up to 19 July 2025	Location- Bidri Block- Saraikela 22° 39' 56.71" N 86° 09' 47.08" E 22° 39' 55.12" N 86° 09' 52.18" E

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Status (Working/Non Working /Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)
3	Stone	Md. Mustafa Ansari (0103061901)	JORDIHA PLOT-509P KHATA-265	2244/2132 30.12.2016	3.320	Working	Captive	SARAIKELA/2016-17/33/DEIAA, Order dt. 17 Oct 2016, Valid upto 12 Aug 2027.	Location-Joddiha Block-Saraikela N - 22°36'36.9" to 22°36'29.8" E-85°55'18.2" to 85°55'17.7"
4	Stone	M/s Laxmi Enterprises (0103373101)	BADKANKI PLOT-11, 12(p), 13, 14, & 15(p),	29.09.2011	4.710	Working	Captive	Letter No- 2378, Order dt. 30 Dec 2015, Valid upto 24 Sep 2020	Location-Katanga Block-Saraikela 22° 36' 59.0" N 85° 56' 01.5" E 22° 36' 58.0" N 85° 56' 24.0" E 22° 36' 53.0" N 85° 56' 02.0" E 22° 36' 54.0" N 85° 56' 24.5" E

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Status (Working/Non Working /Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)
5	Stone	Bhagwati Stone Crusher (0103370601)	MEDKI PLOT-703P	18.06.2016	2.020	Working	Captive	EC/SEIA/2015-16/1181/2015/2003, Order dt. 30 Nov 2015, Valid upto 18 Jun 2026	Location-Medki Block-Saraikela 22° 36' 17.4" N 85° 54' 57.0" E 22° 36' 13.0" N 85° 54' 57.0" E 22° 36' 15.3" N 85° 55' 02.4" E 22° 36' 13.1" N 85° 55' 00.7" E
6	STONE	M/s Leading Construction (0103374201)	SOSOMULI PLOT NO - 132, KHATA NO - 93	2753 dt 01 Sep 2015	2.250	Working	Captive	EC/SEIAA/2015-16/894/2015/1290 Order dt. 17 Aug 2015, Valid upto 16 Aug 2025	Location-Sosomuli, 22°41'21.58" N 86°07'8.6" E 22°41'16.10" N 86°07'9.73" E
7	Stone	M/s Leading Construction (0103616002)	RAYDIH PLOT-117 KHATA-37	1888/1792 30.12.2016	2.160	Working	Captive	EC/DEIAA/SARAIKELA/2016-17/28, Order dt. 17 Oct 2016, Valid upto 16 Aug 2027	Location-Raidih Block-Saraikela 22° 41' 21.58" N 86° 07' 8.6" E 22° 41' 16.10" N 86° 07' 9.73" E 22° 41' 20.10"

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Status (Working/Non Working /Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)
									N 86° 07' 20.10" E 22° 41' 14.52" N 86° 07' 11.05" E
8	Stone	M/s Singhdeo Minerals (0103052201)	BARGAON PLOT-142 A	295 29.02.2016	2.430	Working	Captive	EC/SEIAA/15-16/1381/2015/1807, Order dt. 23 Nov 2015, Valid upto 28 Feb 2026	Location - Badagaon Block - Kharsawan 22° 46' 50.2" N 85° 53' 28.7" E 22° 46' 50.2" N 85° 53' 25.5" E
9	Quartzite	Rajashri Pati (0103515301)	JAIKAN PLOT-1304 KHATA-141	27.01.2016	1.34	Working	Captive	EC/SEIAA/2015-16/976/2015/1621, Order dt. 30 Sep 2015, Valid upto 26 Jan 2026	Location - Jaikan Block - Gamharia 22° 42' 49.74" N 86° 06' 45.49" E 22° 42' 46.08" N 86° 06' 47.21" E
10	Quartzite	Shri Pradeep Singh (0103253601)	CHHOTA KUNDABERA PLOT-84 KHATA-98	2050/1945 17.08.2017	2.752	Working	Captive	EC/DEIAA/SKL/2016-17/52, Order dt. 21 Mar 2017, Valid upto 18 Sep 2027.	Location - Chota Kunabera Block -

Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Status (Working/Non Working /Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)
									Rajnagar 22° 42' 38.05" N 86° 6' 53.81" E
11	Pot Stone	Shree Sai Minerals (0103108601)	MURUNMDIH PLOT-926	2207/2099 14.08.2017	0.790	Working	Captive	EC/DEIAA/SARAIKELA/2016-17/49, Order dt. 21 Mar 2017, Valid upto 18 Sep 2027.	Location-Murumdih Block-Rajnagar 22° 37' 28.95" N 85° 59' 33.02" E
12	Stone	Shaligram Infrastructures Pvt Ltd 0103486901	RAVANKOCHA PLOT-491P	22.07.2016	2.27	Working	Captive	EC/SEIAA/2015-16/714/2015/1152, Order dt. 27 July 2015,	Location-Rabankocha Block-Rajnagar 22° 35' 49.12" N 86° 1' 46.16" E
13	Stone	MATA ENTERPRISES 0103406203	CHHOTATANGRANI PLOT-52,74,142	2732 05.12.2016	1.940	Working	captive	EC/DEIAA/16-17/48 21.03.17	N 22°41' 19.40" to N 22°41' 24.40" E 85°54' 24.20" to E 85°54' 32.20"
14	STONE	Aarohi Impex & Trade Links	TENTOPSI PLOT-1112P	444/G 02.03.21	1.820	Working	captive	EC/SEIAA/242 DT- 09.09.22	22° 43,25.25" N 86° 01' 40.28" E

Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Status (Working/Non Working /Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)
15	Quartzite	SANDEEP KARMAKAR	CHHOTATANGRANI PLOT-84P	95918.08.17		Working	captive	EC/DEIAA/26 DT 07.04.18	22° 43,45.32" N 86° 06' 55.08" E
16	SOAPSTONE	GANGA ENGINEERING	BRAHMANDANGRI PLOT-2,34 KHATA-1,10	1406.01.23	31.360	Working	captive	EC/SEIAA/366 DT- 02.11.23	22° 43,8.204" N 86° 08' 35.837" E
17	STONE	Kolhan Infrastructure and Mining Pvt. Ltd.	TANGJORA PLOT-820(p), 846(p), 817, 819, 844, 845 & 847,	LETTER NO-238/M, DT 20.04.2023	3.07	Working	captive	EC/SEIAA/2023-24/2918/2023/302 DT 06 Oct 2023 Valid Upto07 Apr 2028	22°39'58.15" to 22°40'08.27,N 86°07'16.99" to 86°07'25.01"
18	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	RUDIYA PLOT NO - 2381(p), 2382, 2383 & 2384 & KATIYA POLT NO - 05, 08 & 09	LETTER NO-862/M, DT 24.11.2022	1.50	Working	captive	ECSEIAA/2022-23/2635/2022/245 DT 02.09.2022	22°55'05.98" N to 22°55'10.06" N 86°01'53.95" E to 86°02'01.24" E
19	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	UGMA , PLOT NO - 207, 208(p) & 219(p),	LETTER NO-2165/2057 DT 13.11.2017	2.15	Working	captive	EC/DEIAA/SARAIKELA/2016-17/50 DT 21.03.2017	N 22°43' 30.20" to N 22°43' 37.57" E 86°02' 0.80" to E 86°02' 11.47"
20	STONE	Bhagwati stone crusher (0103370602)	MEDKI PLOT-703P	LETTER NO-2401/2285 DT 16.11.2017	1.65	Working	captive	EC/SEIAA/2023-24/2792/2023/56 DT 02.05.2023	22°36' 11.30" N 85°54' 54.18" E 22°36' 14.54"

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Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Status (Working/Non Working /Temp. Working For Dispatch Etc.)	Captive/Non Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)
									N 85°55' 04.37" E
21	Stone	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	BHADUDIH PLOT-2261(P), 2241, 2242	LETTER NO-2754 DT 18.08.2017	1.87	Temporarily Discontinued	Captive	EC/DEIAA/SARAIKELA/2016-17/50 Order date 21 Mar 2017, valid up to 18 Sep 2027	Location-Bhaduduh Block-Chandil N - 22°54'36.3" to 22°54'40.8" E-86°05'35.3" to 86°05'40"
22	STONE	SHRI ARUN KUMAR TUDU (0103244701)	CHOTALAKHA PLOTNO-1745, 1746 & 1747,	LETTER NO-541/M, DT 23.06.2022	1.22	Working	captive	EC/SEIAA/2021-22/2472/2021/09 DT 16.04.2022	22°54' 56.69" to 22°55' 01.50" 86°04' 20.41" to 86°04' 24.99"

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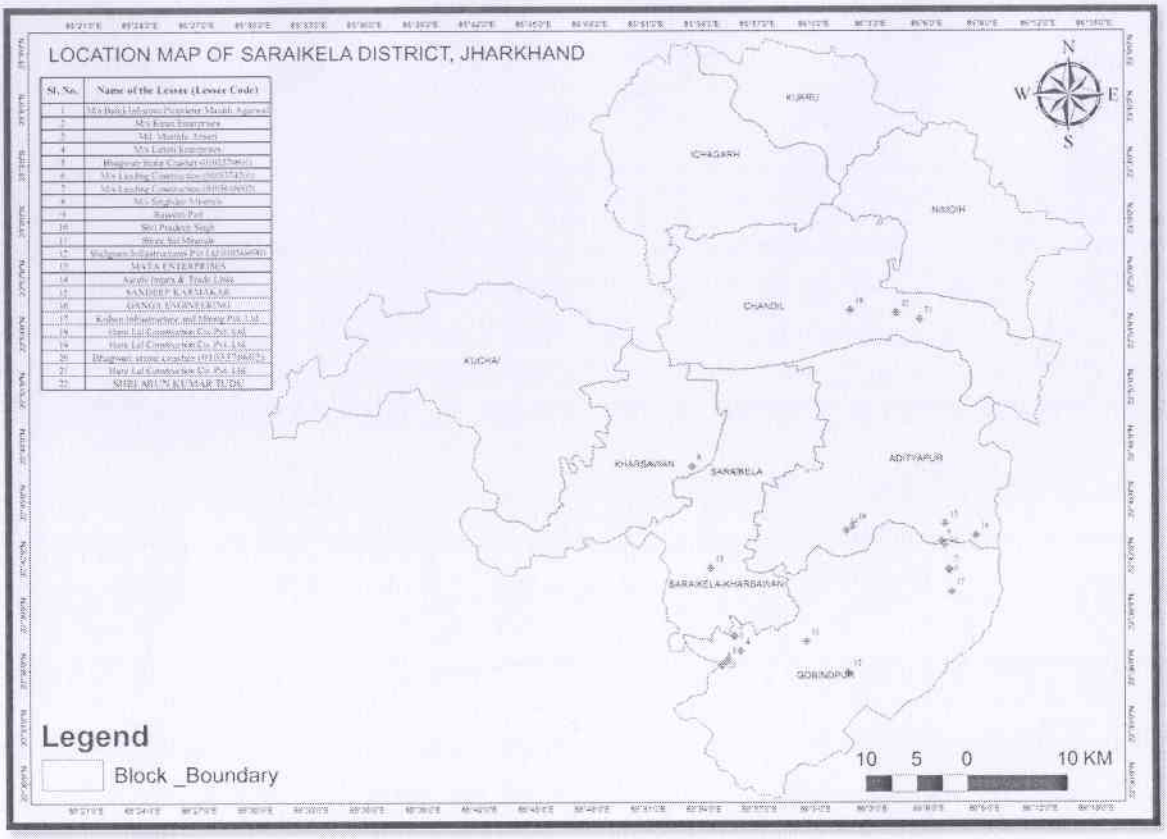

Figure 18-1: Location Map Mining Lease in Saraikela District

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19 DETAILS OF THE AREA OF WHERE THERE IS A CLUSTER OF MINING LEASES VIZ. NUMBER OF MINING LEASES, LOCATION (LATITUDE & LONGITUDE)

Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
Circle- Chandil (3)									
1	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	RUDIYA PLOT NO - 2381(p), 2382, 2383 & 2384 & KATIYA POLT NO - 05, 08 & 09	LETTER NO- 862/M, DT 24.11. 2022	1.50	Working	captive	22°55'05.98" N to 22°55'10.06" N 86°01'53.95" E to 86°02'01.24" E	335190

Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
2	Stone	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	BHADUDIH PLOT-2261(P), 2241, 2242	LETTER NO- 2754 DT 18.08.2017	1.87	Temporarily Discontinued	Captive	Location-Bhadudih Block-Chandil N - 22°54'36.3" to 22°54'40.8" E- 86°05'35.3" to 86°05'40"	308767
3	STONE	SHRI ARUN KUMAR TUDU (0103244701)	CHOTALAKHA PLOTNO- 1745, 1746 & 1747,	LETTER NO-541/M, DT 23.06.2022	1.22	Working	captive	22°54'56.69" to 22°55'01.50" 86°04'20.41" to 86°04'24.99"	35000.34
Circle- Gamharia (2)									

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
4	Quartzite	Rajashri Pati (0103515301)	JAIKAN PLOT-1304 KHATA-141	27.01.2016	1.34	Working	Captive	Location - Jaikan Block - Gamharia 22° 42' 49.74" N 86° 06' 45.49" E 22° 42' 46.08" N 86° 06' 47.21" E	**69615**
5	SOAPSTONE	GANGA ENGINEERING	BRAHMANDANGRI PLOT-2,34 KHATA-1,10	14 06.01.23	31.360	Working	captive	22° 43,8.204" N 86° 08' 35.837" E	695506
Circle- Kharsawan (1)									

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
6	Stone	M/s Singhdeo Minerals (0103052201)	BARGAON PLOT-142 A	295 29.02.2016	2.430	Working	Captive	Location - Badagaon Block - Kharsawan 22° 46' 50.2" N 85° 53' 28.7" E 22° 46' 50.2" N 85° 53' 25.5" E	**472678**
Circle- Rajnagar (7)									

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
7	STONE	M/s Leading Construction (0103374201)	SOSOMULI PLOT NO - 132, KHATA NO - 93	2753 dt 01 Sep 2015	2.250	Working	Captive	Location- Sosomuli, 22°41'21.58" N 86°07'8.6" E 22°41'16.10" N 86°07'9.73" E	**1220049**
8	Quartzite	Shri Pradeep Singh (0103253601)	CHHOTA KUNDABERA PLOT-84 KHATA-98	2050/1945 17.08.2017	2.752	Working	Captive	Location - Chota Kunabera Block - Rajnagar 22° 42' 38.05" N 86° 6' 53.81" E	**331328**

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
9	Pot Stone	Shree Sai Minerals (0103108601)	MURUNMDIH PLOT-926	2207/2099 14.08.2017	0.790	Working	Captive	Location-Murumdih Block-Rajnagar 22° 37' 28.95" N 85° 59' 33.02" E	**73910**
10	Stone	Shaligram Infrastructures Pvt Ltd 0103486901	RAVANKOCHA PLOT-491P	22.07.2016	2.27	Working	Captive	Location-Rabankocha Block-Rajnagar 22° 35' 49.12" N 86° 1' 46.16" E	**491239**
11	Quartzite	SANDEEP KARMAKAR	CHHOTATANGRANI PLOT-84P	959 18.08.17		Working	captive	22° 43,45.32" N 86° 06' 55.08" E	**52904**

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
12	STONE	Kolhan Infrastructure and Mining Pvt. Ltd.	TANGJORA PLOT-820(p), 846(p), 817, 819, 844, 845 & 847,	LETTER NO- 238/M, DT 20.04. 2023	3.07	Working	captive	22°39'58.15" to 22°40'08.27,N 86°07'16.99" to 86°07'25.01"	98260
13	STONE	Bhagwati stone crusher (0103370602)	MEDKI PLOT- 703P	LETTER NO- 2401/2285 DT 16.11.2017	1.65	Working	captive	22°36'11.30" N 85°54'54.18" E 22°36'14.54" N 85°55'04.37" E	84423.13
Circle- Saraikela (9)									

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
14	Quartzite	M/s Balaji Infocom Proprietor Manish Agarwal	BANDARISAI PLOT NO-1112, 1113, 1111, 1093, 1114, & 1092,	2352/2237 14.08.2017	0.460	Working	Captive	Location-Bhandarisai Block-Saraikela N - 22°37'59.34" to 22°37'48.16" E - 85°55'40.36" to 85°55'29.19"	1227501

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
15	Stone	M/s Kiran Enterprises (0103110602)	BIDRI PLOT-1117P	19.07.2015	1.49	Working	Captive	Location-Bidri Block-Saraikela 22° 39' 56.71" N 86° 09' 47.08" E 22° 39' 55.12" N 86° 09' 52.18" E	3839410

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
16	Stone	Md. Mustafa Ansari (0103061901)	JORDIHA PLOT-509P KHATA-265	2244/2132 30.12.2016	3.320	Working	Captive	Location- Joddiha Block- Saraikela N - 22°36'36.9" to 22°36'29.8" E- 85°55'18.2" to 85°55'17.7"	4204110

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
17	Stone	M/s Laxmi Enterprises (0103373101)	BADKANKI PLOT- 11, 12(p), 13, 14, & 15(p),	29.09.2011	4.710	Working	Captive	Location- Katanga Block- Saraikela 22° 36' 59.0" N 85° 56' 01.5" E 22° 36' 58.0" N 85° 56' 24.0" E 22° 36' 53.0" N 85° 56' 02.0" E 22° 36' 54.0" N 85° 56' 24.5" E	5373291

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
18	Stone	Bhagwati Stone Crusher (0103370601)	MEDKI PLOT- 703P	18.06.2016	2.020	Working	Captive	Location- Medki Block- Saraikela 22° 36' 17.4" N 85° 54' 57.0" E 22° 36' 13.0" N 85° 54' 57.0" E 22° 36' 15.3" N 85° 55' 02.4" E 22° 36' 13.1" N 85° 55' 00.7" E	1304472

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
19	Stone	M/s Leading Construction (0103616002)	RAYDIH PLOT-117 KHATA-37	1888/1792 30.12.2016	2.160	Working	Captive	Location-Raidih Block-Saraikela 22° 41' 21.58" N 86° 07' 8.6" E 22° 41' 16.10" N 86° 07' 9.73" E 22° 41' 20.10" N 86° 07' 20.10" E 22° 41' 14.52" N 86° 07' 11.05" E	**2960634**

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
20	Stone	MATA ENTERPRISES 0103406203	CHHOTA TANGRANI PLOT-52,74,142	2732 05.12.2016	1.940	Working	captive	N 22°41'19.40" to N 22°41'24.40" E 85°54'24.20" to E 85°54'32.20"	**1222223**
21	STONE	Aarohi Impex & Trade Links	TENTOPSI PLOT-1112P	444/G 02.03.21	1.820	Working	captive	22° 43,25.25" N 86° 01' 40.28" E	**1262495**

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Sl. No.	Name of Mineral	Name of the Lessee	Mining Address	LOI	Area in Ha.	Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/Non Captive	Location	Reserve
22	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	UGMA , PLOT NO - 207, 208(p) & 219(p),	LETTER NO- 2165/2057 DT 13.11.2017	2.15	Working	captive	N 22°43'30.20" to N 22°43'37.57" E 86°02'0.80" to E 86°02'11.47"	40693.73

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20 DETAILS OF ECO-SENSITIVE AREA

As per the Gazette Notification issued by MoEF & CC, there is Dalma Wildlife Sanctuary Eco-Sensitive area falls in Saraikela-Kharsawan district.

Dalma Wildlife Sanctuary is bounded by the forests of Dhalbhum and Saraikela Forest Division of Jharkhand and Kansabati Forest Division of West Bengal, Jamshedpur township and Chandil sub divisional town are merely 0 -5 kilometers from the boundary of Dalma Wildlife Sanctuary.

As per the notification, the entire forest zone spread over an area of 522.98 sq.km, housing 85 villages inside the forest and 51 villages on its periphery, has been kept out of bounds for any type of pucca construction.

The area up to five kilometers from the boundary of the protected Dalma Sanctuary constitutes the part of the eco-sensitive zone. The eco sensitive zone covers an area of 377.89 sq.km that falls in East Singhbhum and another 145.09 sq.km that is in Seraikela-Kharsawan district.

The notification has stipulated that no concrete construction can be undertaken within 300 meter of the sanctuary while no industrial, mining, crushing, wood-based industries, saw mills and such commercial activities would be allowed within the five km radius from the boundary of the sanctuary area

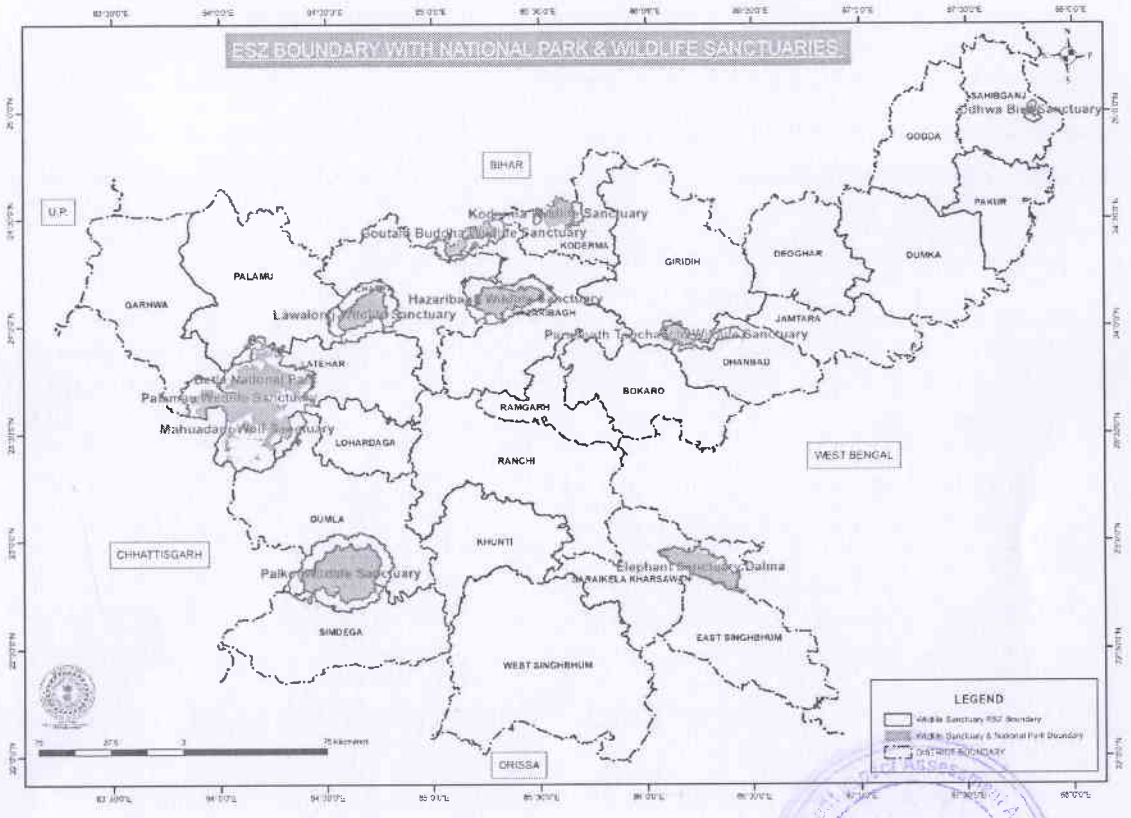

Figure 20-1:- Eco-Sensitive area Map

21 IMPACT ON THE ENVIRONMENT DUE TO MINING

ENVIRONMENTAL IMPACTS	IMPACTS	MITIGATION MEASURES
Air Environment	In some lease surroundings only, a few households are living in the area and population density of village is very less. The area does not have any industrial activity in the core/buffer zone and hence, the ambient air quality of the area is good. Mining will be carried out in a limited area with OTFM mining method. Hence, impact on air quality due to mining will not be significant. Dust Generation due to Drilling Blasting Crushing Transportation on haul road or unpaved road. Operation of mining equipment	All machineries and transport vehicles will be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Tree plantation along the haul roads & approach road will be done. Use of personal protective equipment like dust mask. Ambient air pollution monitoring will be carried out.
Water Environment Surface Water Ground Water	There is no any surface water body in and around the lease area. Hence, effect on surface water quality will be negligible. Many rivers are flowing in and around the mine site, but all are far away from the mine leases and effect on water quality of the river is not expected as no water is allowed to flow directly from the mine site. Mining operation will be carried out in limited scale on a small area above groundwater level. The mineral formation does not contain any harmful elements; hence no contamination will take place into ground water.	Mining is proposed to plan above the ground water table. 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. For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation. Movement of heavy vehicles may be restricted to lease area and road so that leaking oil & grease may not contaminate water quality.
Noise Level	Noise will be created by the movement of the tractors/dumpers/heavy machines etc. However, noise generated by these will be occurring at the very low level and ambient noise level in the buffer zone shall be within permissible limit of CPCB.	Diesel powered machineries, which is major source of noise in open cast mining shall be properly maintained. Attention shall be paid towards rigorous maintenance of the silencer of the diesel engines. Protective devices shall be provided for use of persons employed in the vicinity of high noise areas.

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		With the adoption of controlled blasting techniques, the ground vibrations will be minimized. Plantation around the lease boundary will cut the noise levels.
Land Environment	Mining operation will be carried out in limited scale on a small barren area. Very little amount of soil is present in small patches. Soil within the leasehold area will be used for plantation purpose. Mining Activities are likely to impact on soil quality as; Loss of topsoil Productivity of Soil Contamination of oil or chemical in Soil	The mining activities will be restricted within the lease area only. The waste material will be utilized for the construction of road and also will be used by the local people for construction work. Retaining wall and garland drains for the proposed waste dump will be constructed to arrest wash offs from the dump. Maintenance/repair of vehicles and machineries will not be inside the mining area. However, steel trays will be used for any emergency repair and sudden leakage of oil. Topsoil's are to be removed & stored in an identified area. In order to conserve the quality of topsoil, grass cover is to be developed on topsoil dumps, Such conserved topsoil may be used for land reclamation & development of greenbelt Movement of heavy mining machineries on agriculture land and productive land should be restricted. Movement of heavy vehicles may be restricted to lease area and road so that leaking oil & grease may not contaminate soil quality.
Biological Environment	All the leasehold area is barren. Hence, impact on biological environment in not expected. Mining Activities are likely to Impact on Bio-Diversity of the region as; Habitat Destruction Ecosystem Disruption Damaging	Extensive plantation comprising of pollutant resistant trees will be undertaken, which will serve not only as pollution sink but also as a noise barrier. The impact on the fauna due to the mining activity will be insignificant. The progressive plantation over a period of time will reduce the impact, if any, on the fauna. Considering importance of impact of environmental impact on eco-system in the study area, a series of mitigation measures are incorporated in planning of stone mine & its operation such mitigation measures are given below;

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		Mine sites are selected considering siting criteria prescribed by Government (JSEIAA/ JSPCB/MOEF & CC). Avoid site which have tree cover. Avoid site through which drainage channels passes through. Ecological Assessment: Conduct a thorough ecological survey to identify species and habitats present. Buffer Zones: Establish buffer zones around sensitive habitats to minimize disturbance. Minimize Habitat Destruction: Plan site layout to avoid key habitats and minimize vegetation clearing. Translocation: Consider translocating significant flora and fauna to safe areas. Restoration Plans: Develop a habitat restoration plan for post-mining activities. The impact on flora and fauna of forests in vicinity of the mining are should be prepared and implemented by the lessee at project cost in consultation with the concerned Divisional Forest Officers
Socio-economic Environment	There is no habitat in the lease hold area as well as within 500 m from lease boundary. There will be no adverse impact of mining.	The pit pond after mine closure shall be used for agricultural purpose, growing of fish, drinking water for animal and other domestic uses. Applicant will provide the occupational health and safety by providing regular medical check-up and medicine distribution. Mining operation will improve the financial status of the local people.
Impact on Agriculture	Some form of agricultural use may be possible in sites that are adjacent to farmland provided the soil and topography are favorable. Agricultural and horticultural crops can be grown in a variety of materials.	Agricultural and horticultural crops will be grown in a variety of materials. The range of possibilities include arable cropping, grazing in either productive low land or over upland pasture.

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22 REMEDIAL MEASURES TO MITIGATE THE IMPACT OF MINING ON THE ENVIRONMENT

ENVIRONMENTAL IMPACTS	IMPACTS	MITIGATION MEASURES
Air Environment	In some lease surroundings only, a few households are living in the area and population density of village is very less. The area does not have any industrial activity in the core/buffer zone and hence, the ambient air quality of the area is good. Mining will be carried out in a limited area with OTFM mining method. Hence, impact on air quality due to mining will not be significant. Dust Generation due to Drilling Blasting Crushing Transportation on haul road or unpaved road. Operation of mining equipment	All machineries and transport vehicles will be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control. Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Tree plantation along the haul roads & approach road will be done. Use of personal protective equipment like dust mask. Ambient air pollution monitoring will be carried out.
Water Environment Surface Water Ground Water	There is no any surface water body in and around the lease area. Hence, effect on surface water quality will be negligible. Many rivers are flowing in and around the mine site, but all are far away from the mine leases and effect on water quality of the river is not expected as no water is allowed to flow directly from the mine site. Mining operation will be carried out in limited scale on a small area above groundwater level. The mineral formation does not contain any harmful elements; hence no contamination will take place into ground water.	Mining is proposed to plan above the ground water table. 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. For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation. Movement of heavy vehicles may be restricted to lease area and road so that leaking oil & grease may not contaminate water quality.
Noise Level	Noise will be created by the movement of the tractors/dumpers/heavy machines etc. However, noise generated by these will be occurring at the very low level and ambient noise level	Diesel powered machineries, which is major source of noise in open cast mining shall be properly maintained. Attention shall be paid towards rigorous maintenance of the silencer of the diesel engines.

	in the buffer zone shall be within permissible limit of CPCB.	Protective devices shall be provided for use of persons employed in the vicinity of high noise areas. With the adoption of controlled blasting techniques, the ground vibrations will be minimized. Plantation around the lease boundary will cut the noise levels.
Land Environment	Mining operation will be carried out in limited scale on a small barren area. Very little amount of soil is present in small patches. Soil within the leasehold area will be used for plantation purpose. Mining Activities are likely to impact on soil quality as; Loss of topsoil Productivity of Soil Contamination of oil or chemical in Soil	The mining activities will be restricted within the lease area only. The waste material will be utilized for the construction of road and also will be used by the local people for construction work. Retaining wall and garland drains for the proposed waste dump will be constructed to arrest wash offs from the dump. Maintenance/repair of vehicles and machineries will not be inside the mining area. However, steel trays will be used for any emergency repair and sudden leakage of oil. Topsoil's are to be removed & stored in an identified area. In order to conserve the quality of topsoil, grass cover is to be developed on topsoil dumps, Such conserved topsoil may be used for land reclamation & development of greenbelt Movement of heavy mining machineries on agriculture land and productive land should be restricted. Movement of heavy vehicles may be restricted to lease area and road so that leaking oil & grease may not contaminate soil quality.
Biological Environment	All the leasehold area is barren. Hence, impact on biological environment in not expected. Mining Activities are likely to Impact on Bio-Diversity of the region as; Habitat Destruction Ecosystem Disruption Damaging	Extensive plantation comprising of pollutant resistant trees will be undertaken, which will serve not only as pollution sink but also as a noise barrier. The impact on the fauna due to the mining activity will be insignificant. The progressive plantation over a period of time will reduce the impact, if any, on the fauna. Considering importance of impact of environmental impact on eco-system in

		the study area, a series of mitigation measures are incorporated in planning of stone mine & its operation such mitigation measures are given below; Mine sites are selected considering siting criteria prescribed by Government (JSEIAA/ JSPCB/MOEF & CC). Avoid site which have tree cover. Avoid site through which drainage channels passes through. Ecological Assessment: Conduct a thorough ecological survey to identify species and habitats present. Buffer Zones: Establish buffer zones around sensitive habitats to minimize disturbance. Minimize Habitat Destruction: Plan site layout to avoid key habitats and minimize vegetation clearing. Translocation: Consider translocating significant flora and fauna to safe areas. Restoration Plans: Develop a habitat restoration plan for post-mining activities. Wildlife Corridors: Ensure wildlife corridors are maintained to facilitate animal movement. If a wildlife corridor passes through or around a mining lease area, a Wildlife Conservation Plan will be prepared. These measures help protect biodiversity and mitigate the environmental impact of stone mining. The impact on flora and fauna of forests in vicinity of the mining are should be prepared and implemented by the lessee at project cost in consultation with the concerned Divisional Forest Officers
Socio-economic Environment	There is no habitat in the lease hold area as well as within 500 m from lease boundary. There will be no adverse impact of mining.	The pit pond after mine closure shall be used for agricultural purpose, growing of fish, drinking water for animal and other domestic uses. Applicant will provide the occupational health and safety by providing regular medical check-up and medicine distribution. Mining operation will improve the financial status of the local people.

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Impact on Agriculture	Some form of agricultural use may be possible in sites that are adjacent to farmland provided the soil and topography are favorable. Agricultural and horticultural crops can be grown in a variety of materials.	Agricultural and horticultural crops will be grown in a variety of materials. The range of possibilities include arable cropping, grazing in either productive low land or over upland pasture.

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23 RECLAMATION OF MINED-OUT AREA

23.1 Reclamation of Mined out area (best practice already implemented in the district, requirement as per rules and regulation, proposed reclamation plan);

23.1.1 Reclamation of mined-out area

23.1.1.1 Importance

It is necessary to reclaim the land affected by mining due to following reasons:

- To put the land into productive use like agriculture, forestry or recreational purposes.
- To check soil erosion from dump leading to destruction of watersheds and siltation of river.
- Accumulation of huge quantity of water in worked out pits may pose threat to life and property.
- To combat adverse visual impact.

This requires two stages planning i.e. pre mining planning and post mining land use and monitoring. First stage considers all necessary measures to be taken for making second stage effective. This requires Environmental Impact Assessment (EIA) to be prepared. This should clearly bring out the likely impact of mining on environment, both biotic and a biotic and the likely extent of degradation, which may occur to the environment in the absence of any abatement measures. And to prepare this statement baseline information are required which includes geology/geomorphology, climate, hydrology/hydrogeology, hydro geochemistry and soil. Generation of information may also be required on quality of water, air and noise level, topography, land use pattern, demography of the area etc.

23.1.1.2 Components

For successful reclamation following points are to be considered

- Listing inventory of pre mining condition.
- Monitoring flexibility of mining programme in the light of efficient land reclamation.
- Evaluation of the post mining requirements of the region and to decide on the needs and desire of the affected ground.
- To make reclamation planning suitable to techno-economical and socio-political environment.

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- To assess the physio-chemical characteristics of overburden.
- Extra cost of preservation, re-handling, spreading and levelling of subsoil and topsoil.
- Knowledge of hydrogeological/geomorphological conditions. Aesthetic and/or historic value of land.

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24 RISK ASSESSMENT & DISASTER MANAGEMENT PLAN

The area is hilly area. No possibility to flooding the area. Since, the pits are developed on the hard compact and medium grain rocks hence, there are no possibilities of slope failure. The Risk Assessment & Risk Management Plan will be prepared for safety of man & machinery deployed in the mining activities as per Mining Act, Rules, and Regulations & DGMS circulars.

RISK ASSESSMENT

Table 24-1:- 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

Table 24-2:- Hazard identification & Risk Analysis in Stone Mining operation

S.No.	Activity	Hazard	Probability	Severity
1	Temporary Storage of Explosives	Unintended Explosion	Very Unlikely	Catastrophic
2	Charging of Explosives	Unwanted Explosion	Very Unlikely	Catastrophic

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3	Blasting	Hit by fly rock (Bodily Injury)	Occasional	Major
4	Drilling	Exposure to Dust	Frequent	Insignificant
5	Bench Formation	Fall/Slide/Tripping (Bodily Injury)	Probable	Moderate
6	Loading/Unloading	Bodily injury by hitting by loading material, Exposure to Dust	Very Unlikely	Minor
7	Transportation	Vehicle Accident, Exposure to Dust	Remote	Minor

Natural Risk

S.No.	Particular	Description	Probability
1	Earthquake	As district fall in Zone III which is low risk zone.	Very Unlikely
2	Flood	All identified potential areas are away from river. Proper arrangement for dewatering of quarry during the monsoon period.	Very Unlikely

Risk & its Preventive Measures:

Sl. No.	Hazards	Preventive Measures
1	**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	• 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)
2	**Drilling Operations**	
2.1	**Falls from the edge of a bench**	• It will be ensured that the drilling equipment is suitable for the job.

	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.	• 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.
2.2	**Dust generation during drilling** The hazard is the inhalation of dust which is created during the drilling operation.	• 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.
2.3	**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	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.

	necessary for the work in hand, will be allowed inside the designated noisy area. In most cases this will be the drill operator.	
3.0	**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.	• 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.
4.0	**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.
5.0	**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	• 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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	• 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	
6.0	**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

Natural Risk Assessment and Its preventive measure.

Sl.No.	Particular	Risk	Preventive Measures
1.	Natural	**Flood** Flooding of opencast working due due to heavy rains ingress of	The drainage plan (Dewatering scheme) of the mine has to be prepared considering the maximum rainfall in the area corresponding to maximum quantity

		water from nearby water body i.e. river, reservoir etc.	of water accumulated in quarry, sufficient capacity of pump needs to be prodded for preventing flooding of quarry.
2	**Natural**	**Earthquake** Earthquake in the area may cause damage to life & property.	If the mine is in zone iii & above of impact of earthquake must be integrated with planning & design of the project.
3.	**Natural**	**Land slide** There might be Land slide in external dump or high wall of opencast mine	To prevent land slide in the mine following measures, need to be taken care nature of rock corresponding to • Proper slope to be provided to advancing bench of the mine • Proper slope (45° - 50°) to be provided for terminal slope to the quarry • External dump has to be properly planned with proper side slope to • prevent slope failure. • External dump should be located on a stable ground with load bearing • capacity to support load of external dump. • External dump should be proper drainage plan to prevent building up of internal hydraulic pressure.
4.	**Electrical**	Project operation requires operation of electrical equipment. They are operated on high voltage & use cables. Use of electrical equipment may cause fire or electrocution	Electrical system needs to be designed following relevant prevailing rules as per Act. Regular maintenance and upkeep of cables, switches etc.
5.	**Fire**	Operation of mine requires use of electrical power & diesel oil. Use of electrical power & oil may cause Fire.	• Safe storage of diesel. • No Smoking Zone. • Maintenance of electrical wires • The electrical cables with PVC sheath to prevent overheating and fire. • The cables should have wire with appropriate size of core to carry required current. • Provision for fire alarm and arrangement for firefighting appliances.

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A disaster management plan should be prepared for taking care of for any disaster. Other risk which are included in this category are noise, as it occurs and it can lead to permanent disability. There are problems related to road traffic in and out issuers; inappropriate exposure of moving machines; mechanical failure and because of large number of moving trucks and dumpers there is large quantity of dust present in roadways which affects the operators and can lead to accidents causing injury. They are in acceptable range because of precautions measures taken but no step is taken it can cause hazard. Hence, the steps should be taken to reduce the hazards such as for dust suppression system should be installed.

Disaster in the mines like fires, explosions, entrapments, and inundations can occur any time, so emergency preparedness is a must. The Disaster Management Plan and risk assessment in the mines will include all sorts of above-mentioned emergency and the extent that this plan will be implemented will depend on the nature and scope of the emergency. The basic purpose of Disaster management plan and risk assessment to ensure that mine rescue and recovery activities are conducted safely for rescuer and survivors. According to MMR 1961 a standard operating procedure should be drawn for involvement different category of staff and officers. The SOP should be updated periodically to reduce the chaos and response to the emergency should be quick and smooth.

The responsible person should be familiar with his responsibility during the mock drills. One or two standby should be there to replace the person in Emergency situation. Rescue operations should not include the survivors for any assistance. First Information of Disaster/Emergency should go to the attendance clerk on duty. Duties of attendance Clerk (Emergency Siren) the attendance clerk or other designated person should on getting information of major accident, sound a hotter or a siren immediately declaring a state of emergency at the mine and then to contact the manager and on his advice to call key personnel using the information listed in the Emergency Organization Chart. It is important that all telephone calls are recorded in a telephone log book. Duties of Other Officials should be displayed and handed over to all concerned. Copy the same should be kept at Manager's Office for ready reference. Establishment of Control Room at Unit Level, Area Level and Company Level is essential. Control Room should keep the contact information about –

- Company Manager
- Company Owner/Administrative Officer

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- District Administration
- Govt. Hospitals in nearby localities
- Private Nursing Homes of localities

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25 DETAILS OF THE OCCUPATIONAL HEALTH ISSUES IN THE DISTRICT

25.1 Details of the Occupational Health issues in the district. (Last five-year data of number of patients of Silicosis & Tuberculosis is also needs to be submitted

25.1.1 Occupational Health Hazard and Remedial Measures

The persons employed in the mines are exposed to a number of hazards at work which adversely affect their health. Some of the important ones are dust, noise, heat, humidity, vibration etc. In recent times, there has been increasing awareness among mining industry and the workers about occupational diseases such as Coal Worker's Pneumoconiosis, Silicosis, Manganese Poisoning, Hearing Impairment etc. caused by exposure to health hazards at work. Almost all occupational diseases are known to cause permanent disablement and there is no effective treatment. However, most of the occupational diseases can be prevented by adopting proper occupational health measures and engineering control on airborne dust at workplace. Following diseases have been notified as the diseases connected with mining operations for the purpose of sub-section (1) of Section 25 of the Mines Act, 1952:

S.R.O. 1306 dated the 21st July, 1952

1. Silicosis

2. Pneumoconiosis

S.R. O. 2521 dated the 26th June, 1986

Cancer of lung or the stomach or the pleura and peritoneum (i.e., mesothelioma)

S.O. 399(E) dated 21st February, 2011

1. Noise Induced Hearing Loss.

2. Contact Dermatitis caused by direct contact with chemical.

3. Pathological manifestations due to radium or radioactive substances.

25.1.2 System of Detection of Occupational Diseases in Mines

In order to detect occupational diseases, the industry is required to conduct medical examinations and health surveillance of workers as per the provisions of Mines Act. The present efforts of mines management are concentrated on detection of silicosis, Pneumoconiosis and other notified diseases. Very little attention is paid to other occupational

diseases. The essential features of health surveillance programme required to be carried out in mines are:

(a) Initial Medical Examination of persons to be employed in mines.

(b) Periodic Medical Examination once every five years. General physical examination, chest radiographs, lung function tests and audiometric.

(c) Classification of chest radiographs of workers as per ILO Classification.

(d) Medical examination within one year of superannuation.

(e) Evaluation of all cases of suspected pneumoconiosis by Pneumoconiosis Medical Board.

(f) Maintenance of medical records till the person is in service and 10 years thereafter. The cases of silicosis detected during health surveillance programme are referred to Pneumoconiosis Medical Board of the mining companies for evaluation and certification. If certified, the case is notified to the enforcement authority and evaluated for disability and payment of compensation. Many cases of silicosis and other pneumoconiosis go undetected and a large number of cases of silicosis are misdiagnosed due to lack of training of medical professionals.

As discussion with Saraikela-Kharsawan district Civil Surgeon Office, there are not any cases of Silicosis & Tuberculosis, due to stone mining activity in last five-years in Saraikela-Kharsawan district and further the data of number of patients of Silicosis & Tuberculosis, due to stone mining activity are not found.

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26 PLANTATION AND GREEN BELT DEVELOPMENT

26.1 Plantation and Green Belt Development in respect of leases already granted in the district

Green belt along lease boundary and both sides of transportation road shall be developed in almost all the existing leases in the district. Maximum numbers of plants shall be planted in each year around the lease boundary and both sides of transportation road as mentioned in mining plan. Some mine owner also planted a large number of plants outside the lease area to develop green belt in the district. Neem, Sheesham, Aam, Sal, Arjun, Teak, Mahua, Ashoka, Jamun, Pipal, Banyan etc. are some important plants commonly planted in mine site of Saraikela-Kharsawan district. It is proposed to have a detailed record of plantation to be kept by the respective owner/agent/manager of the mine every year, which has been planted in the safety zone area and transport rout, which is statutorily required. As per the norms of the forest department, the plantation has to be carried out at the rate of 1600 local plants per hectare and along the road side, at an interval of 2 meters in the zig-zag manner in both sides.

Table 26-1:- current status of plantation

Sl. No.	Stone mines	Area of plantation as per Mine plan (Ha.)	Total Plantation	No of plantation at site	Difference
1	M/s Balaji Infocom Proprietor Manish Agarwal	0.60	750	180	570
2	M/s Kiran Enterprises (0103110602) Bidri	0.35	560	185	375
3	M/s Laxmi Enterprises (0103373101) Bada Kanki	0.50	1250	65	1185
4	Bhagwati Stone Crusher (0103370601) Medki	0.52	835	142	693
5	M/s Leading Construction (0103616002)	0.56	467	467	0
6	M/s Singhdeo Minerals (0103052201)	0.51	1020	450	570

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7	Shree Sai Minerals (0103108601)	0.15	290	50	240
8	MATA ENTERPRISES 01034062031 (Chhota Tangrani)	0.65	1040	45	995
9	Aarohi Impex & Trade Links (Tentoposi)	0.54	1350	50	1300
10	LEADING CONSTRUCTION (Sosomuli)	0.462	740	153	597
11	SHRI ARUN KUMAR TUDU	0.26	650	136	534
12	Sri pradip Kumar jaiswal (Ruchap)	0.31	250	100	150
13	Kolhan Infrastructre and Mining Pvt Ltd	0.833	2000	500	1500
14	Shri Kashi Nath Sharma (0103371501)	0.36	575	300	275
15	M/s Hare Lal (Rudiya Katiya)	0.485	1213	150	1063
16	M/s Hare Lal (Ugma)	0.721	1803	120	1683
17	Sandeep Karmakar (Chhota Kunabera)	0.15	375	80	195
18	Shaligram Infrastructures Pvt Ltd 0103486901 (Rawan Kocha)	0.27	675	145	430
19	Pradip Singh Chhota Kunabera	0.460	1149	50	1099
20	Triveni Engicons	1.114	2700	250	2450
21	Md. Mustafa Ansari (0103061901)	0.90	630	150	480
22	Bhagwati stone crusher (0103370602)	0.30	340	65	275
23	SRI VARUN MUNDHRA	0.3495	675	360	315
24	Charu Chand Kisku (0103765601)	0.760	1220	450	770
25	M/s Chanduka Minerals and chemicals pvt ltd 0103019501	0.355	725	350	375
26	Triveni Engicons Pvt. Ltd.	1.114	2700	250	2450

The Deputy Commissioner through District Mining Officer will ensure that the respective mines owner of the respective leases shall complete the plantation within six months from the date of approval of District Survey Report.

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27 ADDITIONAL INFORMATION

27.1 Details of Identified Potential Stone Deposits:

Sl. No.	Name of Mineral	Name of the Lessee	Address & Contact No. of Lessee	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Location of The Mining Lease Mouja Plot & rakwa
1	Stone	Sai Resources Pvt. Ltd.	Prop. Tarun Kanti Gope, At-Dugdha, P.O.-Gamharia, Dist-Seraikella-Kharsawan	16.01.2024	1.500	Mouja-Ulidih, Plot No. 20,21,25 & 26 Rakwa 3.77 acre
2	Stone	M/s. Bhagwati Stone Crushor	Prop. Manoj Kumar, S/o. Late Danveer Prasad, At- New Colony Nimdih, P.O.-Chaibasa, Dist-West Singhbhum	19.01.2024	1.240	Mouja- Chota Tangrani, Plot No. 64, 53, 54, & 65 Rakwa 3.06 acre
3	Stone	V.G. Projects	Prop. Tarun Ahuja, Gourav Singh, At-Yashwant Singh Danda Sai Ward 4 Near Hanuman Mandir, Thana Chakradharpur, Paschimi Singhbhum, Tarun Ahuja, At-Sani Mandir, Chakradharpur, West Singhbhum, Chakradharpur	07.02.2024	2.840	Mouja- Chota Khiri, Plot No. 628/A Rakwa 7 acre
4	Stone	Yash Raj Mahato	S/o. Ras Raj Mahato, Panchayat Ghoranegi, P.O.-Ghoranegi, Ghoranegi, Dist-Seraikella-Kharsawan, Jharkhand, Pin-832401	23.02.2024	1.540	Mouja-Rudiya, Plot No. 1033, 1029 Rakwa 3.80 acre

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5	Stone	M/s. Anil Khirwal	S.o. Bishwanath Khirwal, Khirwal Market, Sadar Bazar, Chaibasa, West Singhbhum, Jharkhand	12.03.2024	2.980	Mouja- Kudarsai, Plot No. 10, 11, & 12 Khata No. 110, Rakwa 7.36 acre
6	Stone	M/s. Katyal Infrastructure Pvt.Ltd.	Dir- Harish Kumar Vig, S/o. Late Jogendra Lal Vig, At- 87 Awas Mahal, C.H. Area East, P.O.-Bistupur, Jamshedpur- 831001	16.03.2024	0.805	Mouja- Ulidih, Plot No. 9,10 & 11, Khata No. 40 & 41 Rakwa 1.99 acre
7	Stone	M/s. Sukhchain Industries Pvt. Ltd.	Prop. Sachida Nand Prasad, S/o- Bengali Prasad, At- Madhushudan Sri Krishnapur, Dimna road, Mango, Jsr, Pin- 831018	20.03.2024	1.660	Mouja- Tangarjoda, Khata No. - 55, 43, 119, 120, 110, 115, 116 &120 Plot No. 472,471, 469, 476, 467, 465, 468, 473, 893, 463, 474, 475, 478, 464 & 477 Area 410.95 Decimal
8	Stone	M/s. Raja Enterprises	Prop. Eklabya Kumar, S/o- Rada Krishna Jaiswal, At- Ruchap, PO+PS- Chandil, Seraikella- Kharsawan	15.04.2024	2.411	Mouja- Plot No. 101, 102, 130, 131, 132, 133, 134, 135, & 136 Rakwa 5.96 acre
9	Stone	M/s. Hare Lal Construction Co. Pvt. Ltd.	Dir-Rudra Pratap Mahato, At- Dhatkidih, PO- Bhadudih, PS- Chandil,	24.04.2024	0.756	Mouja- Bhadudih, Plot No. 2059, 2060 Rakwa 1.87 acre

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			Seraikella Kharsawn			
10	Stone	M/s. Shree Balajee Engicons	Prop. Sri Kishan Kumar Khirwal, S/o- Shaligram Khirwal, At-Sen Tola, Chaibasa, P.O+P.S-Chaibasa, Prop-Sri Nikhil Agarwal, S/o- Sri Bajrang Agarwal, At- Madhubajar, Chaibasa, P.O+P.S-Chaibasa, Dist-West Singhbhum	02.05.2024	1.687	Mouja-Kolabaria, Plot No. 1038,1039, 1040, 1041, 1042, 1049, 1064, 1051, 1053, 1054, 1052 & 1063 Khata No. 117, 119, 120 &121, Rakwa 4.17 acre
11	Stone	M/s. A & S Stone Works	Prop. Asutosh Kr. Singh & Suraj Kr. Sahu, Add-Ground floor, plot no.17 Near IOCL Petrol pump, At-Nagar, PO+PS-Hunterganj, Dist-Chatra	29.05.2024	2.970	Mouja-Tangarjoda Plot No. 27, 28 &29, Khata No. 55 Rakwa 7.34 acre
12	Stone	M/s. Raja Enterprises	Prop. Eklabya Kumar, S/o-Rada Krishna Jaiswal, At-Ruchap, PO+PS-Chandil, Seraikella-Kharsawan	18.06.2024	1.294	Mouja-Baraamra, Plot No. -682 & 684, Rakwa 3.20 acre
13	Stone	M/s. Hemant Kumar Singh	At- Flat no. B51/F3/A Mon city Dimna Road Mango, Jamshdepur	22.06.2024	1.622	Mouja-Rajar, Plot No. 744, 755, 754, 741, 742, 753 & 758 Rakwa 4.01 acre
14	Stone	Sri Dipal Chandra Mahato	S/o. Late Gopal Chandra Mahato, Vill+PO-Bhadudih, PS-Chandil, Dist-Seraikella-	26.06.2024	0.710	Mouja-Bhadudih, Khata No. 74, Plot No. 1478, Rakwa 4.01 acre

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			Kharsawan, Jharkhand			
15	Stone	Sri Arun Kumar Tudu	S/o. Late Mohan Manjhi, Vill-Baralakha, PS-Chandil, Dist-Seraikella-Kharsawan, Jharkhand	02.07.2024	0.640	

Note: - 1. Any other area which may be found feasible for stone mining shall be included in the DSR prospectively.

POTENTIAL ZONE/AREA IN THE DISTRICT

Potential Resource Area for stone mining in the district have been identified and marked on a map.

This identification has been done on basis of:

1. Existence of closed mines
2. Existence of running mines
3. LOI have been issued by the District Mining Office
4. Applications have been filed by prospective proponents on raiyat land
5. Area identified by district Geology Dept.

These resource areas have been surveyed and limiting coordinated have been determined. All such zones are listed in DSR.

These potential zones/areas indicate the areas where resource is available. However, while issuing LOI for mining, it must be ensured by the authority that mining area for which LOI is being issued must be complied to all statutory siting criteria prescribed by competent state/central Govt. agency.

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ANNEXURE-I

LIST OF BRICK KILN

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जिला खनन कार्यालय, सरायकेला–खरसावाँ

ईट सत्र 2018.19

क्र0	आवेदक का नाम एवं पता	मौजा / क्षेत्र का विवरणी	अंचल	अभ्युक्ति
1	2	3	4	5
1	M/s S.N.S. Bricks, Prop Shri Abhay Kumar Singh, S/o Narayan Singh, H.No - 7, Old Purullia Road, Mango, Dist - East Singhbhum, Jamshedpur.	Vill - Sharbara, Plot No - 194, 135, 132, 139, 131, 136, Area - 2.480 acre.	Chandil	
2	M/s H.L.M Bricks Prop Shri Lare lal Mahato, S/o Shri Dalgovind Mahato, At - Dhatkidih, P.o - Bhadudih, P.s - Chandil, Dist - Seraikella-Kharsawan	Vill - Katiya, Plot No - 1746, Area - 2.91 acre.	Chandil	
3	M/s Jyti Bricks, Rishikesh Gour, S/o P.C Gour, Add- N.H.33 Bhilaipahari, P.O - Bhilaipahari, Near - Radha Krishna Mandir, PS M.G.M Jamshedpur, Dist - East singhbhum	Vill - Negtasai, Plot No - 647, 648, 649, 652, 653, 654, 667, 668, 651, 662. Area - 5.82 Acre	Seraikella	
4	M/s P.K.S Bricks, Pro- Prem Kumar Singh, S/o- Late Shivji Singh, 29 Hume Pipe Basti, Po - Sakchi, Dist - East Singhbhum, Jamshedpur.	Vill - Dobo, Plot No - 561, 565 & 601, Area – 2.94 acre.	Chandil	
5	M/s Zubair Ahmed, S/o- Late Nurul Azim, Gwalapara Road, Jugsalai, Dist East Singhbhum - 831006	Vill - Kuluptanga, Plot No - 727(P), Khata No - 81, Area - 2.50 acre.	Adityapur (Notified Area)	
6	M/s Sai Bricks Works, Prop - Shri Basant Kumar Chandak, S/o - Shri Gridhari Lal Chandak, Mo - Police Line, Near Gandhi Maidan Chaibasa,	Mauza - Arahasa, Plot No - 136, 137, 138, 139, 141 & 636 Area - 3.30 Acre.	Rajnager	
7	M/s M.P.C Bricks, Prop - Shri Prabin Kumar Mahato, S/o - yudhisthir Mahato, Vill - Musribera, P.o - Khunti, P.s - Chawka, Dist - Seraikella-Kharsawan.	Mauza - Musribera, Plot No - 769, 770 & 767 Area - 2.29 Acre.	Chandil	
8	Partner -(1) Dilip Kr Mahanti , S/o - Shri Benudhar Mahanti , Vill - khilarisai , Dist - Saraikela kharsawan (2) Sanjay kumar Singh , S/0 - Ram ayodhya singh Vill - Ramgarh Dist - Saraikela kharsawan (3) Madhu Sudan Singh , S/o - Late Sahdev Singh , Vill - Beharasai , Po - Kharsawan , Dist Saraikela kharsawan(4) Ashit kr Mahanti S/o - Ananda Nand Vill-Khiladisai po Kharsawan , Dist - Saraikela kharsawan	Mauza - Ramgarh , Plot No - 375 & 376 , Area - 1.51 Acre.	Kharsawan	
9	Atikur Rehman, S/o - Late Motikur Rehman, L4/146 Road No - 6 B.H. Area Kadma, Jamshedpur.	Vill - Reghadih, Plot No - 481(P) & 482(P) Area - 1.00 acre.	Ghamariya	
10	Atikur Rehman, S/o - Late Motikur Rehman, L4/146 Road No - 6 B.H. Area Kadma, Jamshedpur.	Vill - Bhatiya (Adityapur), Plot No - 979, 988, 922(P), 997 Area - 2.30 acre.	Adityapur (Notified Area)	
11	M/s H.M Bricks, Pro- Shri Harelal Mandal, S/o- Shri Kalipodo Mandal Old Sonari, Near Shiv Mandir, Po+Ps - Sonari, Dist - East Singhbhum, Jamshedpur	Vill - Burudih, Plot No - 965, Area - 2.50 acre.	Ghamariya	
12	M/s Singhdeo Bricks, Prop - Shri Navkishor Singhdeo, S/o - Late Ishwari Prasad Singhdeo, Vill - Haribhanja (Kharsawan), Po+Ps - Kharsawan, Dist - Seraikella-Kharsawan.	Mauza - Haribhanja, Plot No - 1090, 1091, 1092, 1120, 1121 & 1122 Area - 4.63 Acre.	Kharsawan	
13	M/s K.S.D. Bricks, Prop Shri Khursid Ali, At - Kamalpur, P.o - Sini, Dist - Seraikella-Kharsawan	Mouza - Kamalpur, Plot No - 211, Area - 2.47 Acre	Seraikella	
14	M/s N.B.C Bricks (Unit-1), Pro - Shri Santosh Kumar Sinha, Devki Vila Dhiraj Ganj, Adityapur-832109, Dist - Seraikella- Kharsawan.	Vill -Jojo, Plot No -474, 474A, 454, 455, & 456, Area – 1.825 Hect.	Seraikella	
15	M/s N.B.C Bricks (Unit-2), Pro - Shri Santosh Kumar Sinha, Devki Vila Dhiraj Ganj, Adityapur-832109, Dist - Seraikella- Kharsawan.	Vill - Murgaghutu, Plot No – 468, 478, 482 to 485 & 508 to 512, Area – 1.616	Ghamariya	
16	Chandra Bhansh yadav, S/o - Late Hardev Singh yadav , Vill- S . Type Main Road Adityapur , Dist - Saraikela kharsawan	Mauza- Jambera, Plot No - 210 to 227 Area - 3.24 Acre	Ghamariya	
17	Chandra Bhansh yadav, S/o - Late Hardev Singh yadav , Vill- S . Type Main Road Adityapur , Dist - Saraikela kharsawan	Mauza- Kolabira, Plot No - 1282 to 1303(P) Area - 3.36 Acre	Seraikella	
18	M/s Deep Bricks, Part Shri Madan Munda, At - Rutdih, Ps - Kuchi, & Shri Mahesh Yogi, At - Dunadih, Ps -Kuchi, Dist Seraikella-Kharsawan	Monza - Jamda, Plot No - 373, 374 & 382 Area, 2.45 Acre	Kuchi	
19	M/s - S.L.X Bricks Prop - Dinesh kumar Agarwal, S/o - Late Madan Lal Agarwal , Add- vill +Po - Sinni , Ps - Saraikela, Dist- Saraikela Kharsawan	Mauza- Banksai , Plot No - 211 , Area - 2.45 Acre	Seraikella	

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20	M/s Kamal Bricks, Prop - Shri Pritpal Singh, S/o - Late Kartar Singh, Mo - Jawahar Nagar Mango, Jamshedpur, Dist - Seraikella-Kharsawan.	Mauza - Karnidih, Plot No - 1433, 1436, 1437, 1438 & 1439 Area - 2.34 Acre.	Chandil	
21	M/s Biswas Bricks, Prop Shri Bijay Biswas , S/o Late Jamini Kumar Biswas , Add - 159/A Crystal apartment Dhalbhum Raod Sakchi, Po - Sakchi, Jamshedpur.	Mauza - Soharbera , Plot No - 835, 854 & 855 Area - 3.25 Acre	Chandil	
22	M/s S.H.M Bricks, Pro - Tajun Nisha, Darulshareef, Hanif Lean P.B. Road, Jugsalai, Jamshedpur.	Vill - Vijay, Plot No - 971, Area - 2.07 acre.	Seraikella	
23	M/s U.P.S Bricks Prop Upendra Singh S/o- Late Brija Singh Add- Chandil Station Basti, Po - Tankocha , Ps - Nimdih , Dist - Saraikela Kharsawan	Mauza- Kushputul , Plot No - 323 , 324 , Area - 2.40 Acre.	Chandil	
24	M/s S.H.M. Bricks, Md. Mustak Khan, S/o Md. Hanif Khan, P.B. Road Jugsalai, Jamshedpur, Dist - East Singhbhum	Vill - Hathitand, Plot No - 736, Area - 2.49 Arce	Seraikella	
25	M/s S.H.M. Bricks, Prop Yusuf S/o Shek Ishahak At – Saldih Po - Kolabira Dist - Seraikella-Kharsawan.	Vill - Gangpur, Plot No - 207, 211 & 219, Area - 3.00 Arce	Ghamariya	
26	M/s N.B.C Bricks (Unit-III), Pro - Shri Santosh Kumar Sinha, Devki Vila Dhiraj Ganj, Adityapur-832109, Dist - Seraikella- Kharsawan.	Vill - Jojo, Plot No - 901, 1230, 1246, 1223, 1226, 1228, 1229, 1247, Area - 2.51 Arce	Seraikella	
27	M/s Sona Bricks , Prop - Saheb Ram Murmu , Vill - Jillinggora , Po - dudra, Ps Gamharia , Dist - Saraikela kharsawan	Mauza - Jillinggora , Plot No - 893 , Area - 2.40 Acre	Ghamariya	
28	M/s Suraj Bricks, Prop Shri Sudhir Kumar Mandal, S/o - Sri Baidhnath mandal , Vill + Bada Amda , Po - Bada Amda , Dist- Saraikela kharsawan	Mauza - Chilgu , Plot No - 946, 947, Area - 0.291 Acre	Kharsawan	
29	M/s EMCO Bricks, Prop Ram Iswar sharma S/o - Man Bodha Sharam , Add- Station Basti chandil Po - Chandil P0 - Tankocha , Ps Nimdih , Dist - Saraikela kharsawan	Mauza - Rawtara, Plot No - 486, Area - 1.80 Acre	Chandil	
30	M/s King Bricks, Prop - Shri Mustafa Ansari, S/o - Md Hussain, Vill - Behrasai, Po+Ps - Kharsawan, Dist - Seraikella-Kharsawan.	Mauza - Chilku, Plot No - 144, Area - 2.51 Acre or 1.02 Hec	Kharsawan	
31	M/s Raja Bricks Prop - Md. Mustafa Ansari, S/o - Md. Hussainm, Vill - Behrasai, Po+Ps - Kharsawan, Dist - Seraikella-Kharsawan.	Mauza - Jutpur, Plot No - 149, Area - 0.90 Hect.	Kharsawan	
32	Bhilaipahari, P.O - Bhilaipahari, Near - Radha Krishna Mandir, PS M.G.M Jamshedpur, Dist - East singhbhum	Mouza - Udaypur, Plot No - 1133,1154,1155 & 1166 Area - 2.10 Acre	Ghamariya	
33	Keshav Prasad Yadav , S/o - Late Gaya Prasad , Add- Dima Raod , Mango, Jamshedpur , Dist - East singhbhum, Jharkhand	Mauza - Purisily , Plot No - 4 & 5 , Area - 5 Acre	Chandil	
34	M/s N.K.S BRICKS , Smt Manju Devi (Manju Sahu) W/o - Basudev saw Po- Kunti , Ps - Chowka , Dist - Saraikela Kharsawan Pin 832404	Mauza - Kurli, Plot No - 148,149 & 150 Area 2.47 Acre	Chandil	

ANNEXURE-II

LETTER OF SDM COMMITEE

उपायुक्त का कार्यालय, सरायकेला-खरसावाँ
(खनन शाखा)

:: आदेश ::

माननीय NGT द्वारा वाद O.A. No – 40/2020/EZ में दिनांक 14.10.2020 को पारित आदेश में बालू का DSR, NABET/IQCCI Accredited Agency द्वारा तैयार किये जाने का निदेश था, जिसे माननीय उच्चतम न्यायालय में Civil Appeal No – 3661-3662 of 2020, The State of Bihar & Ors – Vrs- Pawan Kumar & Ors. में दिनांक 10.11.2021 को पारित आदेश में संशोधित कर निम्नरूपेण गठित Sub Divisional Committee द्वारा DSR तैयार करने हेतु आदेश दिया गया है :-

i) अनुमण्डल पदाधिकारी ।
ii) लघु सिंचाई / जल संसाधन विभाग से नामित पदाधिकारी ।
iii) राज्य प्रदूषण नियंत्रण पर्षद द्वारा नामित पदाधिकारी ।
iv) वन, पर्यावरण एवं जलवायु परिवर्तन विभाग से नामित पदाधिकारी ।
v) खान एवं भूतत्व विभाग से नामित पदाधिकारी ।

उक्त के आलोक में लघु खनिजों (बालू को छोडकर) का DSR तैयार करने हेतु जिलान्तर्गत निम्न रूपेण कमिटी गठित की जाती है :-

i) अनुमण्डल पदाधिकारी, सरायकेला ।
ii) कार्यपालक अभियन्ता, लघु सिंचाई प्रमण्डल, सरायकेला ।
iii) क्षेत्रीय पदाधिकारी, झारखण्ड राज्य प्रदूषण नियत्रंण पर्षद, आदित्यपुर, जमशेदपुर ।
iv) वन प्रमण्डल पदाधिकारी, सरायकेला-खरसावाँ ।
iii) जिला खनन पदाधिकारी, सरायकेला-खरसावाँ ।
iv) सहायक निदेशक, भूतत्व जिला भूतात्विक कार्यालय, सरायकेला-खरसावाँ ।

अतः निदेश दिया जाता है कि सरकार के सचिव, खान एवं भूतत्व विभाग, झारखण्ड राँची के पत्रांक ख०नि०(विविध) – 73/2022 – 928/एम०, राँची, दिनांक 27.04.2023 के आलोक में उपरोक्त Sub Divisional Committee द्वारा लघु खनिजों (बालू को छोडकर) का DSR तैयार करते हुए अधोहस्ताक्षरी के अनुमोदन हेतु उपस्थापित किया जाय ।

अनुलग्नक :- यथोक्त ।

ह०/-
उपायुक्त
सरायकेला-खरसावाँ ।

ज्ञापांक 358 /एम०, दिनांक 2/6/23
प्रतिलिपि :- सभी संबंधित को सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित ।

2/6/23
उपायुक्त
सरायकेला-खरसावाँ ।

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ANNEXURE-III

MAPS

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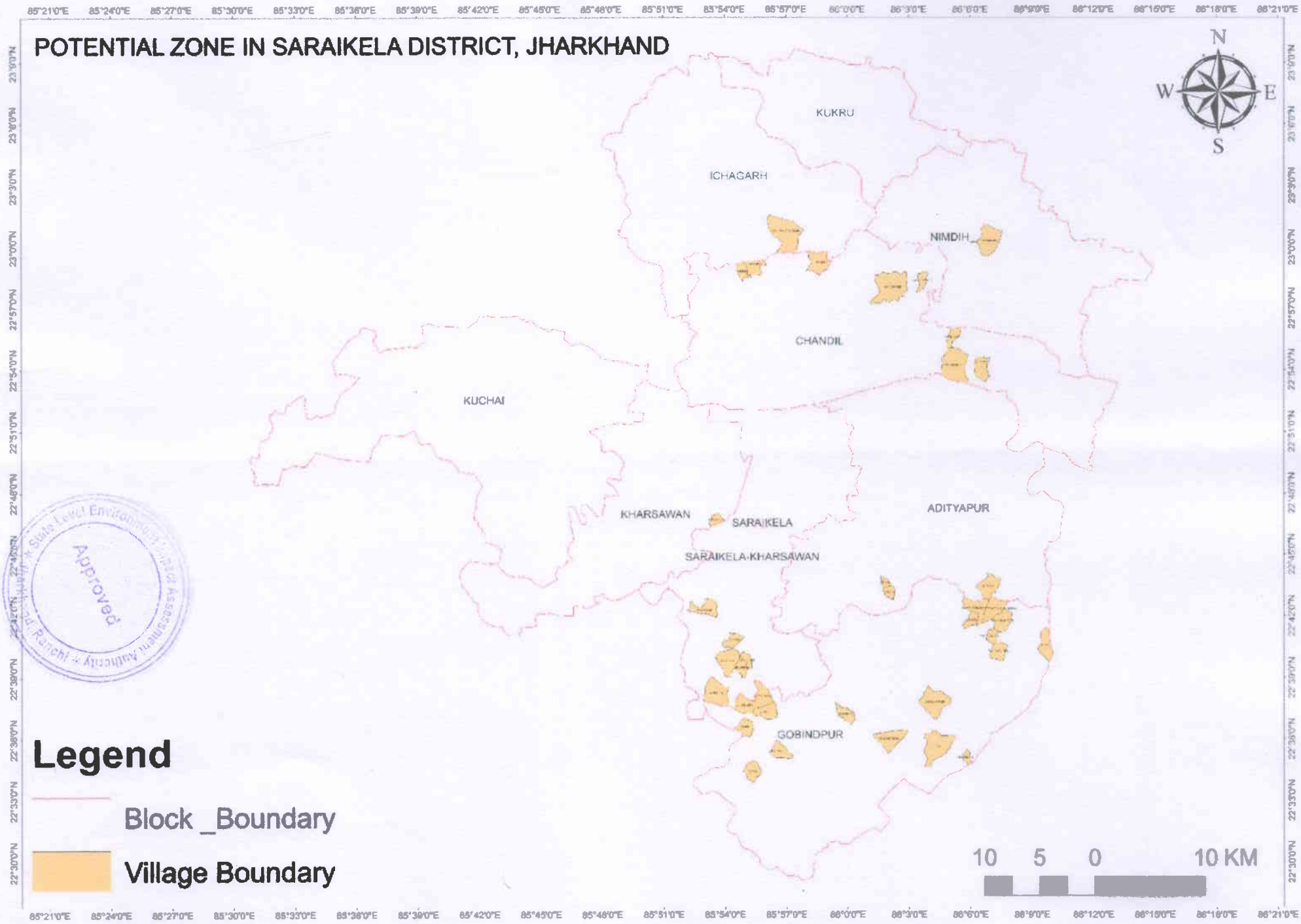
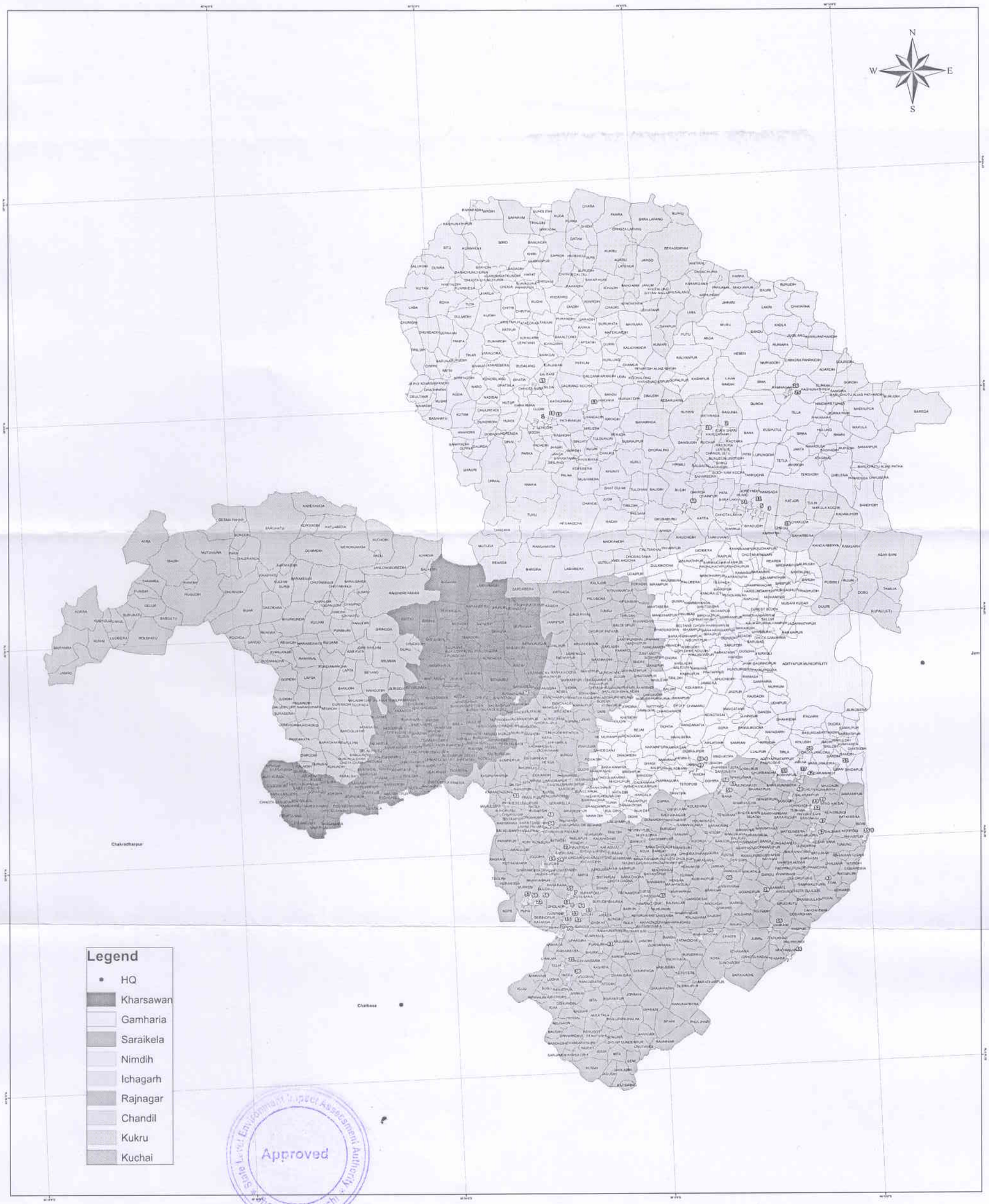
POTENTIAL ZONE IN SARAIKELA DISTRICT, JHARKHAND



DSR LEASES IN DISTRICT
SARAIKELA KHARSAWAN,JHARKHAND

0 2.75 5.5 11 16.5 22 Kilometers

1 cm = 1 km



POTENTIAL VILLAGE DISTRICT-SARAIKELA-KHARSAWAN_ JHARKHAND		
Sl.No.	VILLAGE	TEHSIL
1	KASHIDIH	CHANDIL
2	GORDIH	CHANDIL
3	SINGATI	CHANDIL
4	JHABRI	CHANDIL
5	JANTA	CHANDIL
6	DIRLANG	CHANDIL
7	URMAL	CHANDIL
8	RANKA	CHANDIL
9	PALNA	CHANDIL
10	TURU	CHANDIL
11	TANISAYA	CHANDIL
12	MUTUDA	CHANDIL
13	REARDA	CHANDIL
14	RANGAMATIA	CHANDIL
15	BARSIRA	CHANDIL
16	LABAIBERA	CHANDIL
17	MIRUDIH	CHANDIL
18	CHANDADIH	CHANDIL
19	RAYADIH	CHANDIL
20	BERADA	CHANDIL
21	TULDUNGRI	CHANDIL
22	RUGRI	CHANDIL
23	CHAULIBASA	CHANDIL
24	BARAMTANR	CHANDIL
25	KOKEBERA	CHANDIL
26	CHAUKA	CHANDIL
27	MASLEWA	ADITYAPUR
28	SARDABERA	SARAIKELA-KHARSAWAN
29	HATNADA	SARAIKELA-KHARSAWAN
30	KALAJOR	SARAIKELA-KHARSAWAN
31	PORADIH	SARAIKELA-KHARSAWAN
32	KONAMARCHA	SARAIKELA-KHARSAWAN
33	HUDU	SARAIKELA-KHARSAWAN
34	UPERBERA	SARAIKELA-KHARSAWAN
35	TUMSA	SARAIKELA-KHARSAWAN
36	PALOBERA	SARAIKELA-KHARSAWAN
37	KASIDA	SARAIKELA-KHARSAWAN
38	JUNGLIKHAS	SARAIKELA-KHARSAWAN
39	JANKIPUR	SARAIKELA-KHARSAWAN
40	GOPALPUR	SARAIKELA-KHARSAWAN
41	PADAMPUR	SARAIKELA-KHARSAWAN
42	SERENGDA	SARAIKELA-KHARSAWAN
43	MAHADEBPUR	SARAIKELA-KHARSAWAN
44	CHOROK PATHAR	SARAIKELA-KHARSAWAN
45	TIRILDIH	SARAIKELA-KHARSAWAN
46	BALDEOPUR	SARAIKELA-KHARSAWAN
47	KUANRDAHI	SARAIKELA-KHARSAWAN
48	BENGNADIH	SARAIKELA
49	BHALUPAHARI	SARAIKELA-KHARSAWAN
50	MADHUPUR	SARAIKELA-KHARSAWAN
51	SANTIPUR	SARAIKELA-KHARSAWAN
52	PANAROL	SARAIKELA-KHARSAWAN
53	SAKLADIH	SARAIKELA-KHARSAWAN
54	RANGAMATIA	SARAIKELA-KHARSAWAN
55	JURITAND	SARAIKELA-KHARSAWAN
56	SOBHAPUR	SARAIKELA-KHARSAWAN
57	SINDRI	SARAIKELA-KHARSAWAN
58	GOPINATHPUR	SARAIKELA-KHARSAWAN

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59	ULIDIH	SARAIKELA-KHARSAWAN
60	MUNDATAND	SARAIKELA-KHARSAWAN
61	BHADRADIH	SARAIKELA-KHARSAWAN
62	MAHITPUR	SARAIKELA-KHARSAWAN
63	SOWANPUR (SINI)	SARAIKELA-KHARSAWAN
64	RANKA KOCHA	SARAIKELA-KHARSAWAN
65	KURSONPUR	SARAIKELA-KHARSAWAN
66	KADAMBERA	SARAIKELA-KHARSAWAN
67	KANCHANPUR	SARAIKELA-KHARSAWAN
68	KOIRA	SARAIKELA-KHARSAWAN
69	SIDMA	SARAIKELA-KHARSAWAN
70	KAMALPUR	SARAIKELA-KHARSAWAN
71	SOHANDIH	SARAIKELA-KHARSAWAN
72	SOWANPUR	SARAIKELA-KHARSAWAN
73	PADAMPUR	SARAIKELA-KHARSAWAN
74	GUMANDIH	SARAIKELA-KHARSAWAN
75	KHATUA KUDAR	SARAIKELA-KHARSAWAN
76	KUSNOPUR	SARAIKELA-KHARSAWAN
77	CHITADIH	SARAIKELA-KHARSAWAN
78	BHALAIDIH	SARAIKELA-KHARSAWAN
79	PALASDIH	SARAIKELA-KHARSAWAN
80	BORDIH	SARAIKELA-KHARSAWAN
81	UKRI	SARAIKELA-KHARSAWAN
82	KUSNOPUR	SARAIKELA-KHARSAWAN
83	JOJO	SARAIKELA-KHARSAWAN
84	SURMALI	SARAIKELA-KHARSAWAN
85	BIRDADIH	SARAIKELA-KHARSAWAN
86	BANKSAI	SARAIKELA-KHARSAWAN
87	GURADIH	SARAIKELA-KHARSAWAN
88	GHORALANG	SARAIKELA-KHARSAWAN
89	MOHULPANI	SARAIKELA-KHARSAWAN
90	KENDUA	SARAIKELA-KHARSAWAN
91	LAKHODIH	SARAIKELA-KHARSAWAN
92	ITAKUDAR	SARAIKELA-KHARSAWAN
93	BUNDU	SARAIKELA-KHARSAWAN
94	HATIA	SARAIKELA-KHARSAWAN
95	DASIADIH	SARAIKELA-KHARSAWAN
96	NARAINDIH	SARAIKELA-KHARSAWAN
97	RENGODIH	SARAIKELA-KHARSAWAN
98	JAGARNATHPUR	SARAIKELA-KHARSAWAN
99	HURINGDIH	SARAIKELA-KHARSAWAN
100	DHADKIDIH	SARAIKELA-KHARSAWAN
101	MAHALI MURUP	SARAIKELA-KHARSAWAN
102	MURUP	SARAIKELA-KHARSAWAN
103	KADAMADIHA	SARAIKELA-KHARSAWAN
104	DIGARSAHAI	SARAIKELA-KHARSAWAN
105	HENSA	SARAIKELA-KHARSAWAN
106	DEOGIRISAHI	SARAIKELA-KHARSAWAN
107	GOBINDPUR	SARAIKELA-KHARSAWAN
108	BHURKULI	SARAIKELA-KHARSAWAN
109	DOLANDIH	SARAIKELA-KHARSAWAN
110	PANDRA	SARAIKELA-KHARSAWAN
111	PADAMPUR	SARAIKELA-KHARSAWAN
112	NARSINGHPUR	SARAIKELA-KHARSAWAN
113	BASUDEBPUR	SARAIKELA-KHARSAWAN
114	DUDHI	SARAIKELA-KHARSAWAN
115	MANIKBAZAR	SARAIKELA-KHARSAWAN
116	BIRANCHPUR	SARAIKELA-KHARSAWAN
117	SARGIDIH	SARAIKELA-KHARSAWAN
118	PANDUA	SARAIKELA-KHARSAWAN
119	KASIPUR	SARAIKELA-KHARSAWAN
120	HARUA	SARAIKELA-KHARSAWAN

121	KARANDAGORA	SARAIKELA-KHARSAWAN
122	SALDIH	SARAIKELA-KHARSAWAN
123	KITA	SARAIKELA-KHARSAWAN
124	BIRAM CHANDRAPUR	SARAIKELA-KHARSAWAN
125	RANGPUR	SARAIKELA-KHARSAWAN
126	MUKUNDPUR	SARAIKELA-KHARSAWAN
127	BALRAMPUR	SARAIKELA-KHARSAWAN
128	BARBIL	SARAIKELA-KHARSAWAN
129	KENDUMPOSI	SARAIKELA-KHARSAWAN
130	MAHULDIHA	SARAIKELA-KHARSAWAN
131	PATAHESEL	SARAIKELA-KHARSAWAN
132	PARALPOSI	SARAIKELA-KHARSAWAN
133	JILINGBURU	SARAIKELA-KHARSAWAN
134	BARUDIH	SARAIKELA-KHARSAWAN
135	BALIPOSI	SARAIKELA-KHARSAWAN
136	NATIDI	SARAIKELA-KHARSAWAN
137	CHENGDUBI	SARAIKELA-KHARSAWAN
138	KUDARSAI	SARAIKELA-KHARSAWAN
139	SERAIKELLA	SARAIKELA-KHARSAWAN
140	BIRANCHPUR	SARAIKELA-KHARSAWAN
141	RAJABASA	SARAIKELA-KHARSAWAN
142	BALIPOSI	SARAIKELA-KHARSAWAN
143	BARA TENGRANI	SARAIKELA-KHARSAWAN
144	DHOBADIHA	SARAIKELA-KHARSAWAN
145	BISTAMPUR	SARAIKELA-KHARSAWAN
146	BALAD-BANDHA	SARAIKELA-KHARSAWAN
147	PAMPRA	SARAIKELA-KHARSAWAN
148	LAKRA PAHARI	SARAIKELA-KHARSAWAN
149	CHOTA	SARAIKELA-KHARSAWAN
150	HATHIMARA	SARAIKELA-KHARSAWAN
151	PAHARPUR	SARAIKELA-KHARSAWAN
152	KURI	SARAIKELA-KHARSAWAN
153	NOAGURA	SARAIKELA-KHARSAWAN
154	BATIADIH	SARAIKELA-KHARSAWAN
155	BISHUN PADUKA	SARAIKELA-KHARSAWAN
156	THATUPARA OR BEGNAD	SARAIKELA-KHARSAWAN
157	TABLAPUR	SARAIKELA-KHARSAWAN
158	KOMDIH	SARAIKELA-KHARSAWAN
159	NOAGAON	SARAIKELA-KHARSAWAN
160	TIRILDIH	SARAIKELA-KHARSAWAN
161	KALAPATHAR	SARAIKELA-KHARSAWAN
162	KALAGUJU	SARAIKELA-KHARSAWAN
163	SENISIDMA	SARAIKELA-KHARSAWAN
164	TURASAI	SARAIKELA-KHARSAWAN
165	CHOTA LUPUNG	SARAIKELA-KHARSAWAN
166	RAJURISAI	SARAIKELA-KHARSAWAN
167	RUJURISAI	SARAIKELA-KHARSAWAN
168	BHARSAI	SARAIKELA-KHARSAWAN
169	BHONDARISAI	SARAIKELA-KHARSAWAN
170	KADAMDIHA	SARAIKELA-KHARSAWAN
171	JURGURIA	SARAIKELA-KHARSAWAN
172	BARALUPUNG	SARAIKELA-KHARSAWAN
173	AKHILNATHPUR	SARAIKELA-KHARSAWAN
174	MAJHIA DAONA	SARAIKELA-KHARSAWAN
175	BARA DAONA	SARAIKELA-KHARSAWAN
176	CHOTA DAONA	SARAIKELA-KHARSAWAN
177	BISTAMSAI	SARAIKELA-KHARSAWAN
178	SOADA	SARAIKELA-KHARSAWAN
179	MIRGI	SARAIKELA-KHARSAWAN
180	SIDADIH	SARAIKELA-KHARSAWAN
181	SATRUSAL	SARAIKELA-KHARSAWAN
182	JHALIAPOSI	SARAIKELA-KHARSAWAN

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183	RAGRAGI	SARAIKELA-KHARSAWAN
184	POTHANMARA	SARAIKELA-KHARSAWAN
185	MANGUDIH	SARAIKELA-KHARSAWAN
186	JODDIHA	SARAIKELA-KHARSAWAN
187	NOADIHI	SARAIKELA-KHARSAWAN
188	DHARAMDIHA	SARAIKELA-KHARSAWAN
189	KUSHNUPUR	SARAIKELA-KHARSAWAN
190	SHANKARPUR	SARAIKELA-KHARSAWAN
191	BARA BANA	SARAIKELA-KHARSAWAN
192	SIJUDIH	SARAIKELA-KHARSAWAN
193	MURKUM	SARAIKELA-KHARSAWAN
194	THOLKA	SARAIKELA-KHARSAWAN
195	HURANGDA	SARAIKELA-KHARSAWAN
196	KOPE	SARAIKELA-KHARSAWAN
197	CHAITANPUR	SARAIKELA-KHARSAWAN
198	MAKUNDPUR	SARAIKELA-KHARSAWAN
199	DHADKIDIH	SARAIKELA-KHARSAWAN
200	LAKARBADI	SARAIKELA-KHARSAWAN
201	RAGHUNATHPUR	SARAIKELA-KHARSAWAN
202	BHALAIDIH	SARAIKELA-KHARSAWAN
203	UPERDUNGI	SARAIKELA-KHARSAWAN
204	GANGPUR	SARAIKELA-KHARSAWAN
205	JHIMIRI	NIMDIH
206	HUTU	NIMDIH
207	ANDA	NIMDIH
208	MURU	NIMDIH
209	BAGRI	NIMDIH
210	BURUDIH	NIMDIH
211	KALYANPUR	NIMDIH
212	HARASUNDARPUR	NIMDIH
213	GOPALPUR	NIMDIH
214	KASHIPUR	NIMDIH
215	LAWA	NIMDIH
216	HEBEN	NIMDIH
217	BANDU	NIMDIH
218	LAKRI	NIMDIH
219	CHATARMA	NIMDIH
220	KADLA	NIMDIH
221	RURIARA	NIMDIH
222	MURUGDIH	NIMDIH
223	SIMA	NIMDIH
224	GUNDA	NIMDIH
225	JUGILANG	NIMDIH
226	HURRUPATHARDIH	NIMDIH
227	CHINGRA PANRKIDIH	NIMDIH
228	RAMNAGAR	NIMDIH
229	ADARDIH	NIMDIH
230	RAGHUNATHPUR	NIMDIH
231	TILLA	NIMDIH
232	KUSPUTUL	NIMDIH
233	BANA	NIMDIH
234	BURUDUNGRI	NIMDIH
235	UGDIH	NIMDIH
236	PITKI	NIMDIH
237	BOCH KAM KOCHA	NIMDIH
238	TANKOCHA	NIMDIH
239	LUPUNGDIH	NIMDIH
240	GOURIDIH	NIMDIH
241	GORDIH	NIMDIH
242	BAREDA	NIMDIH
243	BURUDIH	NIMDIH
244	MADHUPUR	NIMDIH

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245	ARUGHUTU ALIAS PATHARD	NIMDIH
246	MAKULA	NIMDIH
247	SAMANPUR	NIMDIH
248	BARUGHUTU ALIAS PATHA	NIMDIH
249	DAHUBERA	NIMDIH
250	BANDHDIH	NIMDIH
251	PHARENGA	NIMDIH
252	TENGADIH	NIMDIH
253	CHELEMA	NIMDIH
254	TETLA	NIMDIH
255	JHARIDIH	NIMDIH
256	SIRKA	NIMDIH
257	JANTA	NIMDIH
258	ATASIMAL	NIMDIH
259	KAMADULA	NIMDIH
260	BAGHADIH	NIMDIH
261	RUPADIH	NIMDIH
262	BAMNI	NIMDIH
263	HULUNG	NIMDIH
264	HAKASARA	NIMDIH
265	PURNA PANI	NIMDIH
266	KETUNGA	NIMDIH
267	NIMDIH	NIMDIH
268	SURIDIH	NIMDIH
269	SANGIRA	NIMDIH
270	SAPARAM	KUKRU
271	TIRALDIH	KUKRU
272	GUNDLIDIH	Level 3
273	SIRKADIH	KUKRU
274	KUDA	KUKRU
275	PERKA	KUKRU
276	CHARA	KUKRU
277	PANRA	KUKRU
278	BARA LAPANG	KUKRU
279	RUPRU	KUKRU
280	CHHOTA LAPANG	KUKRU
281	SAPADA	KUKRU
282	DATAM	KUKRU
283	SHISHI	KUKRU
284	HEREMULI	KUKRU
285	DERE	KUKRU
286	CHANO	KUKRU
287	EDALDIH	KUKRU
288	BURUDIH	KUKRU
289	KARKIDIH	KUKRU
290	BAKAR KURI	KUKRU
291	KUKRU	KUKRU
292	LATENDA	KUKRU
293	JARGO	KUKRU
294	BERASISIRAM	KUKRU
295	KARKA	KUKRU
296	SINDURPUR	KUKRU
297	PARGAMA	KUKRU
298	HAITIRAL	KUKRU
299	CHUNCHURIA	KUKRU
300	KARARGAMA	KUKRU
301	KISHUNDIH	KUKRU
302	HESALANG	KUKRU
303	URIA	KUKRU
304	ADARDIH	KUKRU
305	ICHADIH	KUKRU
306	BANDABIR	KUKRU

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307	CHAUKI	KUKRU
308	JANUM	KUKRU
309	KHUDILONG	KUKRU
310	SHYAM NAGAR	KUKRU
311	KENDAENDA	KUKRU
312	UDHATANR	KUKRU
313	KUMARI	KUKRU
314	DAYAPUR	KUKRU
315	ATRA	KUCHAI
316	JAMRO	KUCHAI
317	SIKRAMBA	KUCHAI
318	KORRA	KUCHAI
319	KUMAI	KUCHAI
320	ROLSHATU	KUCHAI
321	LUDIBERA	KUCHAI
322	KUSROULI	KUCHAI
323	DANGL	KUCHAI
324	BURUHATU	KUCHAI
325	BASGUTU	KUCHAI
326	GELUA	KUCHAI
327	PUNISIR	KUCHAI
328	TARAMBA	KUCHAI
329	SIADIH	KUCHAI
330	RUGUDIH	KUCHAI
331	RAMDIH	KUCHAI
332	DESMA PAHAR	KUCHAI
333	MUTUGURA	KUCHAI
334	PARA	KUCHAI
335	BONODIH	KUCHAI
336	DALBHANGA	KUCHAI
337	DHUNADIH	KUCHAI
338	BARUHATU	KUCHAI
339	KARERANGA	KUCHAI
340	KORWADIH	KUCHAI
341	HATUABERA	KUCHAI
342	GOMIADIH	KUCHAI
343	MEROMJANGA	KUCHAI
344	KUDADIH	KUCHAI
345	BADU	KUCHAI
346	JANLONGBOREDIH	KUCHAI
347	ICHADIH	KUCHAI
348	SALAIDIH	KUCHAI
349	BIJAR	KUCHAI
350	JOGOHATU	KUCHAI
351	TORANGDIH	KUCHAI
352	SURSI	KUCHAI
353	BARASEGOI	KUCHAI
354	CHOTASEGOI	KUCHAI
355	ROCHDA	KUCHAI
356	DANGO	KUCHAI
357	RENGSA	KUCHAI
358	SASOKARA	KUCHAI
359	BHURKUNDA	KUCHAI
360	KARALOR	KUCHAI
361	CHOTABANDI	KUCHAI
362	BARA BANDI	KUCHAI
363	RAISINDRI PAHAR	KUCHAI
364	GUMPU	KUCHAI
365	CHAMPAD	KUCHAI
366	TODANGDIH	KUCHAI
367	JAMDAH	KUCHAI
368	ICHAHATU	KUCHAI

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369	DAMODIRI	KUCHAI
370	SIRINGDA	KUCHAI
371	DHADKIDIH	KUCHAI
372	DORO	KUCHAI
373	GOGAMACHA	KUCHAI
374	JOWAJANJIR	KUCHAI
375	REGADIH	KUCHAI
376	KUCHAI	KUCHAI
377	MARANGHATU	KUCHAI
378	PUNIBURI	KUCHAI
379	RUCHAB	KUCHAI
380	JORA SARJAM	KUCHAI
381	ARUWAN	KUCHAI
382	KAR KATA	KUCHAI
383	JILINGDA	KUCHAI
384	MANGUDIH	KUCHAI
385	BEYANG	KUCHAI
386	LAPTA	KUCHAI
387	KUNDIAMARCHA	KUCHAI
388	RAMAISAL	KUCHAI
389	LAPSA	KUCHAI
390	GOPIDIH	KUCHAI
391	JUGIDIH	KUCHAI
392	SURABERA	KUCHAI
393	PAGARIDIH	KUCHAI
394	GALUDIH URF NARANDHARA	KUCHAI
395	REGADIH	KUCHAI
396	SAMUDIH	KUCHAI
397	TILOPADA	KUCHAI
398	DUKHIADIH	KUCHAI
399	NOAGAON	KUCHAI
400	BANDOLOHAR	KUCHAI
401	GUMDADIH	KUCHAI
402	PANDAKATA	KUCHAI
403	MUNDADEO	KUCHAI
404	BARACHAKRI	KUCHAI
405	PATULPIR	KUCHAI
406	BANGURDIH	KUCHAI
407	RURUNGLOHAR	KUCHAI
408	DELAIGHUTU	KUCHAI
409	CHOTA CHAKRI	KUCHAI
410	PARALBADI	KUCHAI
411	KUNJADIH	KUCHAI
412	DURUSAI	KUCHAI
413	CHIRUDIH	KUCHAI
414	KALAIDIH	KUCHAI
415	RAIJAMA	KHARSAWAN
416	PATPAT	KHARSAWAN
417	RIRING	KHARSAWAN
418	HURANGDA	KHARSAWAN
419	LAKHANADIH	KHARSAWAN
420	RAGHUNATH PUR	KHARSAWAN
421	NOWABERA	KHARSAWAN
422	JHUNJKI	KHARSAWAN
423	NARAINBERA	KHARSAWAN
424	MUDADIH	KHARSAWAN
425	KHEJURDA	KHARSAWAN
426	KATADIH	KHARSAWAN
427	DIRIORA	KHARSAWAN
428	SILPINGDA	KHARSAWAN
429	TANKODIH	KHARSAWAN
430	SAURANG	KHARSAWAN

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431	PUNDIDAH	KHARSAWAN
432	URJUDIH ALIAS PANJANBER	KHARSAWAN
433	HARIBHANJA	KHARSAWAN
434	KASHIDIH	KHARSAWAN
435	KONDADIH	KHARSAWAN
436	BITABURU	KHARSAWAN
437	NARAINDIH	KHARSAWAN
438	SIDMA KUDAR	KHARSAWAN
439	KADAMBERA	KHARSAWAN
440	RAIDIH	KHARSAWAN
441	SAHARBERA	KHARSAWAN
442	BORAGAON	KHARSAWAN
443	SAUNTARI	KHARSAWAN
444	BAGRAIDIH	KHARSAWAN
445	CHILKU	KHARSAWAN
446	JITPUR	KHARSAWAN
447	RAMGARH	KHARSAWAN
448	KHELARISAI	KHARSAWAN
449	BALRAMPUR	KHARSAWAN
450	SANDEBURU	KHARSAWAN
451	BURIGUTA	KHARSAWAN
452	KATWAN	KHARSAWAN
453	BANDIRAM	KHARSAWAN
454	RENGOGARA	KHARSAWAN
455	GAJUDIH	KHARSAWAN
456	TOTA TALBADI	KHARSAWAN
457	BEGNADIH	KHARSAWAN
458	KAL BURUDIH	KHARSAWAN
459	ASURA	KHARSAWAN
460	POTKA	KHARSAWAN
461	NAYASAI	KHARSAWAN
462	BURUDIH	KHARSAWAN
463	MOHALISAI	KHARSAWAN
464	HANSDA	KHARSAWAN
465	HARISAI	KHARSAWAN
466	DEOLI	KHARSAWAN
467	SIMLA	KHARSAWAN
468	BARDIH	KHARSAWAN
469	BABUAMDIH	KHARSAWAN
470	GOPIDIH	KHARSAWAN
471	NAYADIH	KHARSAWAN
472	BABUAMDIH	KHARSAWAN
473	BARDAH	KHARSAWAN
474	CHAMRUDIH	KHARSAWAN
475	GANDPUR	KHARSAWAN
476	PARADIHA	KHARSAWAN
477	GURLU PADA	KHARSAWAN
478	ARKATOLAH URF SANDADI	KHARSAWAN
479	TIRINGTIPA	KHARSAWAN
480	RUDARPUR	KHARSAWAN
481	GUABERA	KHARSAWAN
482	BARA AMDA	KHARSAWAN
483	UDALKHAM	KHARSAWAN
484	BANDUBERA	KHARSAWAN
485	NARANPUR	KHARSAWAN
486	KUCHAI	KHARSAWAN
487	TIRILDIH	KHARSAWAN
488	KHAMARDIH	KHARSAWAN
489	NISCHINTPUR	KHARSAWAN
490	KUDASING	KHARSAWAN
491	ASANTALIA	KHARSAWAN
492	CHHOTA AMDA	KHARSAWAN

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493	SARGAPOSI	KHARSAWAN
494	BURITOPA	KHARSAWAN
495	GOPINATHPUR	KHARSAWAN
496	TELISAI	KHARSAWAN
497	BARAHSAI	KHARSAWAN
498	BAIDNATHPUR	KHARSAWAN
499	DEHURIDIH	KHARSAWAN
500	ANANDDIH	KHARSAWAN
501	IALADIH URF JHUMAR TERI	KHARSAWAN
502	IOJODIH	KHARSAWAN
503	PADAMPUR	KHARSAWAN
504	DALAIKELA	KHARSAWAN
505	BANAI KELA	KHARSAWAN
506	HINDUSAI	KHARSAWAN
507	KHUDIPIR	KHARSAWAN
508	PIRKI	KHARSAWAN
509	SANTOSHPUR	KHARSAWAN
510	MAUDA	KHARSAWAN
511	BARAMSAL	KHARSAWAN
512	KOCHA	KHARSAWAN
513	JAGATPUR	KHARSAWAN
514	RAJABASA	KHARSAWAN
515	HARIHARPUR	KHARSAWAN
516	KISNAPUR	KHARSAWAN
517	GITILATA	KHARSAWAN
518	JORDIHA	KHARSAWAN
519	GOPALPUR	KHARSAWAN
520	POTOBERA	KHARSAWAN
521	UDHRIA	KHARSAWAN
522	KONTALA	KHARSAWAN
523	CHHOTA BAMBU	KHARSAWAN
524	GANDAMARA	KHARSAWAN
525	SAMURSAI	KHARSAWAN
526	TELANGJARI	KHARSAWAN
527	BARA BAMBU	KHARSAWAN
528	PITAKOLANG	KHARSAWAN
529	CHHOTA SARGIDIH	KHARSAWAN
530	MAHADEBBUTA	KHARSAWAN
531	KOTOALSAL	KHARSAWAN
532	BARA SUPAISAI	KHARSAWAN
533	SONAPOSI	KHARSAWAN
534	RUGRI	KHARSAWAN
535	JERASAI	KHARSAWAN
536	CHHOTA SUPAISAI	KHARSAWAN
537	BARA SARGIDIH	KHARSAWAN
538	LOSODIKIR	KHARSAWAN
539	JOJO KURMA	KHARSAWAN
540	SINGADIH	KHARSAWAN
541	BARA KURMA	KHARSAWAN
542	TELAIDIH	KHARSAWAN
543	KADLA	KHARSAWAN
544	PARMADIH	KHARSAWAN
545	KOTOALBADI	KHARSAWAN
546	KHARSAWAN	KHARSAWAN
547	BIRDIH	ICHAGARH
548	RAHARADIH	ICHAGARH
549	RAGHUNATHPUR	ICHAGARH
550	SITU	ICHAGARH
551	KURMADIH	ICHAGARH
552	S0RO	ICHAGARH
553	BAMUNDIH	ICHAGARH
554	KHIRI	ICHAGARH

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555	GOBINDPUR	ICHAGARH
556	SALUKDIH	ICHAGARH
557	DUMRA	ICHAGARH
558	KUTAM	ICHAGARH
559	HARTALDIH	ICHAGARH
560	PUNRIHESA	ICHAGARH
561	BARACHUNCHURIA	ICHAGARH
562	BARADIH	ICHAGARH
563	CHHOTA CHUNCHURIA	ICHAGARH
564	LABA	ICHAGARH
565	CHUNIDIH	ICHAGARH
566	BORA	ICHAGARH
567	TUTA	ICHAGARH
568	JHARUA	ICHAGARH
569	ADARDIH	ICHAGARH
570	MATKUMDIH	ICHAGARH
571	BADADIH	ICHAGARH
572	HARAT	ICHAGARH
573	CHIRUKUI	ICHAGARH
574	SONAGORA	ICHAGARH
575	PAHARPUR	ICHAGARH
576	CHOGA	ICHAGARH
577	KHOKHRO	ICHAGARH
578	RUGRI	ICHAGARH
579	CHIMTIA	ICHAGARH
580	CHITRI	ICHAGARH
581	KUIDIH	ICHAGARH
582	DULMIDIH	ICHAGARH
583	TIRILDIH	ICHAGARH
584	DHUNDADIH	ICHAGARH
585	SEPARAM	ICHAGARH
586	PAMEA	ICHAGARH
587	CHIPRI	ICHAGARH
588	BARUNA	ICHAGARH
589	RATAI	ICHAGARH
590	BURUDIH	ICHAGARH
591	JILING ADAR	ICHAGARH
592	DEULTANR	ICHAGARH
593	DHADHKIDIH	ICHAGARH
594	BAMANDIH	ICHAGARH
595	NAWADIH	ICHAGARH
596	RUGRI	ICHAGARH
597	DIADIH	ICHAGARH
598	PURANDIH	ICHAGARH
599	TAMARI	ICHAGARH
600	ATAEGRAM	ICHAGARH
601	KRISTAPUR	ICHAGARH
602	PATPUR	ICHAGARH
603	DUMARDIH	ICHAGARH
604	TIKAR	ICHAGARH
605	JARAGORA	ICHAGARH
606	BANKATI	ICHAGARH
607	SERENGDIH	ICHAGARH
608	AGSIA	ICHAGARH
609	NARO	ICHAGARH
610	KUNDRILANG	ICHAGARH
611	KANREBERA	ICHAGARH
612	LEPATANR	ICHAGARH
613	BUDALANG	ICHAGARH
614	ICHAGARH	ICHAGARH
615	BANKSAI	ICHAGARH
616	BAKALTORIA	ICHAGARH

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617	KARKA	ICHAGARH
618	GARADIH	ICHAGARH
619	LAPSADIH	ICHAGARH
620	BURUHATA	ICHAGARH
621	MAYSARA	ICHAGARH
622	MATEKUMDIH	ICHAGARH
623	DURRI	ICHAGARH
624	KALICHAMDA	ICHAGARH
625	PENREDIH ALIAS BIRDIH	ICHAGARH
626	CHAMDA	ICHAGARH
627	KOCHALONG	ICHAGARH
628	UDAL	ICHAGARH
629	HURLUNG	ICHAGARH
630	PATKUM	ICHAGARH
631	DALGAM	ICHAGARH
632	KARANDIH	ICHAGARH
633	KURUKTOPA	ICHAGARH
634	BANDU	ICHAGARH
635	JAMDAHA	ICHAGARH
636	GAURANG KOCHA	ICHAGARH
637	KUNJABAN	ICHAGARH
638	SALBANI	ICHAGARH
639	SILDA	ICHAGARH
640	KATHGHARA	ICHAGARH
641	GUDRI	ICHAGARH
642	CHHOTA AMRA	ICHAGARH
643	BARA AMRA	ICHAGARH
644	GHATIA	ICHAGARH
645	GHATSILA	ICHAGARH
646	HUTUP	ICHAGARH
647	HUNDI	ICHAGARH
648	NADISAI	ICHAGARH
649	CHOUREADI	ICHAGARH
650	KUTAM	ICHAGARH
651	BASAHATU	ICHAGARH
652	AMANDIRI	ICHAGARH
653	SANKRADIH	ICHAGARH
654	GURMA	ICHAGARH
655	DAURDA	ICHAGARH
656	GHAGRI	ICHAGARH
657	JOTA	GOBINDPUR
658	SANGAJOTA	GOBINDPUR
659	TIPANGTANR	GOBINDPUR
660	GOPALPUR	GOBINDPUR
661	CHORBANDHA	GOBINDPUR
662	BHARATPUR	GOBINDPUR
663	MUNDAKATI	GOBINDPUR
664	BANA	GOBINDPUR
665	KHAIRKOCHA	GOBINDPUR
666	BARA KUNABERA	GOBINDPUR
667	GENGERURI	GOBINDPUR
668	SOSODIH	GOBINDPUR
669	CHOTA KUNABERA	GOBINDPUR
670	MAJGAON	GOBINDPUR
671	BALARAMPUR	GOBINDPUR
672	BEND KALSAI	GOBINDPUR
673	GANGADIHI	GOBINDPUR
674	CHPRA	GOBINDPUR
675	CHHELKANI	GOBINDPUR
676	KOLABARIA	GOBINDPUR
677	TENGRANI	GOBINDPUR
678	CHHOTA KHIRI	GOBINDPUR

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679	SIDADIH	GOBINDPUR
680	BANKHAIRBANI	GOBINDPUR
681	BARA KUDAR	GOBINDPUR
682	DUMARDIHA	GOBINDPUR
683	BIKRAMPUR	GOBINDPUR
684	RADHANAGAR	GOBINDPUR
685	BURUDIH	GOBINDPUR
686	SARANGCHIRA	GOBINDPUR
687	SANJAR	GOBINDPUR
688	HAUMANADA	GOBINDPUR
689	BARAKANKI	GOBINDPUR
690	TENTIDIH	GOBINDPUR
691	KUORDA	GOBINDPUR
692	DURGAJAGMOHANPUR	GOBINDPUR
693	RANJOR	GOBINDPUR
694	BHALUBASA	GOBINDPUR
695	BARAKHIRI	GOBINDPUR
696	BALJORI	GOBINDPUR
697	GANDHAMANDA	GOBINDPUR
698	ADARHATU	GOBINDPUR
699	BARAMTALIA	GOBINDPUR
700	BARAMTALIA	GOBINDPUR
701	GOPINATHPUR	GOBINDPUR
702	BANDI	GOBINDPUR
703	BISRAMPUR	GOBINDPUR
704	BIDRI	GOBINDPUR
705	BATARBERA	GOBINDPUR
706	KENDMUNDI	GOBINDPUR
707	SOSOMULI	GOBINDPUR
708	PADNAM SAHI	GOBINDPUR
709	TUIBASA	GOBINDPUR
710	MATKUMBERA	GOBINDPUR
711	TANGARJORA	GOBINDPUR
712	SALBANI	GOBINDPUR
713	LAKHIPOSI	GOBINDPUR
714	PAHARPUR	GOBINDPUR
715	ANTUSAHI	GOBINDPUR
716	NAYADIH	GOBINDPUR
717	DUMARDIHA	GOBINDPUR
718	TUMUNG	GOBINDPUR
719	NAGADI	GOBINDPUR
720	KESAR SARA	GOBINDPUR
721	BATUJHAR	GOBINDPUR
722	BARSASAI	GOBINDPUR
723	GUMDIPANI	GOBINDPUR
724	BHUYANACHNA	GOBINDPUR
725	BONGADANDU	GOBINDPUR
726	MAHESH KUDAR	GOBINDPUR
727	CHALIAMA	GOBINDPUR
728	NAYASAI	GOBINDPUR
729	SOBHAPUR	GOBINDPUR
730	KAMALPUR	GOBINDPUR
731	DANDU	GOBINDPUR
732	PACHRIKUTUNG	GOBINDPUR
733	RUPANACHRA	GOBINDPUR
734	NATAIRURI	GOBINDPUR
735	SONARDI	GOBINDPUR
736	EDAL	GOBINDPUR
737	BAMANKUTUNG	GOBINDPUR
738	GOLOKUTUNG	GOBINDPUR
739	KHAIRBANI	GOBINDPUR
740	HESAL	GOBINDPUR

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741	AMLATALA	GOBINDPUR
742	TENTIDIH	GOBINDPUR
743	TENTIA	GOBINDPUR
744	GURA	GOBINDPUR
745	JARKAN	GOBINDPUR
746	PANDUGITI	GOBINDPUR
747	BAGHRAISAI	GOBINDPUR
748	GOBINDPUR	GOBINDPUR
749	BANKATI	GOBINDPUR
750	KHOKRO	GOBINDPUR
751	CHOTA SIJULATA	GOBINDPUR
752	URUGHUTU	GOBINDPUR
753	BARASIJULATA	GOBINDPUR
754	DANGARDIHA	GOBINDPUR
755	GOBARDHAN	GOBINDPUR
756	JAMBANI	GOBINDPUR
757	RAMPUR	GOBINDPUR
758	RUTUDIH	GOBINDPUR
759	PHUPHUNDI	GOBINDPUR
760	MUCHIASAI	GOBINDPUR
761	ITAPOKHAR	GOBINDPUR
762	JUMAL	GOBINDPUR
763	SOLGARIA	GOBINDPUR
764	KARKO	GOBINDPUR
765	BARIASAI	GOBINDPUR
766	KUSHNOPUR	GOBINDPUR
767	HAKASARA	GOBINDPUR
768	CHHERIA PAHARI	GOBINDPUR
769	RANIGUNJ	GOBINDPUR
770	LAKSHMIPUR	GOBINDPUR
771	NICHINTPUR	GOBINDPUR
772	LAKSHMIPOSI	GOBINDPUR
773	MUHULDIHA	GOBINDPUR
774	BANKATI	GOBINDPUR
775	ASUA	GOBINDPUR
776	BARIDIH	GOBINDPUR
777	BARA DHOLADIH	GOBINDPUR
778	CHOTA DHOLADIH	GOBINDPUR
779	JOGITOPA	GOBINDPUR
780	BARA PAHARPUR	GOBINDPUR
781	CHHOTA PAHARPUR	GOBINDPUR
782	KENDMURI	GOBINDPUR
783	KURMA	GOBINDPUR
784	MADANASAI	GOBINDPUR
785	SARANGPOS	GOBINDPUR
786	NAMIBERA	GOBINDPUR
787	MAGARKOLA	GOBINDPUR
788	HENSRA	GOBINDPUR
789	MURIAPARA	GOBINDPUR
790	GAMARIA	GOBINDPUR
791	MAJGAON	GOBINDPUR
792	GANGDESAI	GOBINDPUR
793	GAJIDIH	GOBINDPUR
794	NAUKA	GOBINDPUR
795	CHADRI	GOBINDPUR
796	ICHAMARA	GOBINDPUR
797	TEASARA	GOBINDPUR
798	CHHOTA KADAL	GOBINDPUR
799	BARA KADAL	GOBINDPUR
800	SUNDARDIH	GOBINDPUR
801	RORA	GOBINDPUR
802	RABANKOCHA	GOBINDPUR

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803	KALAJHAMA	GOBINDPUR
804	SHAMNAGAR	GOBINDPUR
805	RAJNAGAR	GOBINDPUR
806	CHANGUA	GOBINDPUR
807	SURSI	GOBINDPUR
808	HATNABERA	GOBINDPUR
809	NAKRAKOCHA	GOBINDPUR
810	MURUMDIH	GOBINDPUR
811	BHURSA	GOBINDPUR
812	BARHAI	GOBINDPUR
813	KHAIRBANI	GOBINDPUR
814	KESARGARIA	GOBINDPUR
815	KHANDADERA	GOBINDPUR
816	MAHARAJGANJ	GOBINDPUR
817	PATAKOCHA	GOBINDPUR
818	BANDU	GOBINDPUR
819	BURISIRING	GOBINDPUR
820	CHAKRADHARPUR	GOBINDPUR
821	DUBRAJPUR	GOBINDPUR
822	LETOTERIL	GOBINDPUR
823	RICHITUKA	GOBINDPUR
824	BARUBERA	GOBINDPUR
825	GONDAMARA	GOBINDPUR
826	KOTARICHARA	GOBINDPUR
827	PHULJHARI	GOBINDPUR
828	HANUMATBERA	GOBINDPUR
829	CHAUNRADIH	GOBINDPUR
830	DHURIPADA	GOBINDPUR
831	JAMDIH	GOBINDPUR
832	TELAI	GOBINDPUR
833	KESHARGARIA	GOBINDPUR
834	KASHIDA	GOBINDPUR
835	DHANUDIHI	GOBINDPUR
836	JONBANI	GOBINDPUR
837	SERESAI	GOBINDPUR
838	SITANI	GOBINDPUR
839	RAJABASA	GOBINDPUR
840	BARAGIDI	GOBINDPUR
841	JHALAK	GOBINDPUR
842	BHALUPANI	GOBINDPUR
843	BISRAMPUR	GOBINDPUR
844	ATODIH	GOBINDPUR
845	RANGAMATIA	GOBINDPUR
846	JODDIHA	GOBINDPUR
847	PATKA	GOBINDPUR
848	LODHA	GOBINDPUR
849	BANKASAI	GOBINDPUR
850	KUJU	GOBINDPUR
851	RENGALBERA	GOBINDPUR
852	SOSO	GOBINDPUR
853	RANJITPUR	GOBINDPUR
854	BARHAI	GOBINDPUR
855	KOMDIH	GOBINDPUR
856	ICHA	GOBINDPUR
857	DEHURIDIH	GOBINDPUR
858	HESAKOCHA	CHANDIL
859	CHOTA KANKRA	ADITYAPUR
860	BHADUAGORA	ADITYAPUR
861	JAGANATHPUR	ADITYAPUR
862	KHADRABAD	ADITYAPUR
863	DIGHI	ADITYAPUR
864	NISAKPUR	ADITYAPUR

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865	UDAIPUR	ADITYAPUR
866	DULKIKOCHA	ADITYAPUR
867	BIRAMPUR	ADITYAPUR
868	KHUDIBERA	ADITYAPUR
869	GIDIBERA	ADITYAPUR
870	KANKI	ADITYAPUR
871	RAIPUR	ADITYAPUR
872	BAIJNATHPUR	ADITYAPUR
873	BARIKOCHA	ADITYAPUR
874	RAGHUNATHPUR	ADITYAPUR
875	RATANPUR	ADITYAPUR
876	MADHUPUR	ADITYAPUR
877	PALUBERA	ADITYAPUR
878	MANOHARPUR	ADITYAPUR
879	KARANGURA	ADITYAPUR
880	TILEPADA	ADITYAPUR
881	MANIPUR	ADITYAPUR
882	CHOTABARAMARI	ADITYAPUR
883	UDAIPUR	ADITYAPUR
884	RAJGAON	ADITYAPUR
885	GANGIA	ADITYAPUR
886	RANGATANR	ADITYAPUR
887	NENGTASAI	ADITYAPUR
888	UJAINPUR	ADITYAPUR
889	BASULIKOCHA	ADITYAPUR
890	DHAHKIDIH	ADITYAPUR
891	CHAMARU	ADITYAPUR
892	SALDIH	ADITYAPUR
893	MURIA	ADITYAPUR
894	JIWANPUR	ADITYAPUR
895	DEOLI	ADITYAPUR
896	CHANDARPUR	ADITYAPUR
897	HATITAND	ADITYAPUR
898	JAMBOHAL	ADITYAPUR
899	JORDINA	ADITYAPUR
900	DUGNI	ADITYAPUR
901	KHUDIDIH	ADITYAPUR
902	BEJAI	ADITYAPUR
903	RENGODIH	ADITYAPUR
904	NIL MOHANPUR	ADITYAPUR
905	DONDA	ADITYAPUR
906	RANGAMATIA	ADITYAPUR
907	SIMALBERA	ADITYAPUR
908	BAJADIH	GOBINDPUR
909	SOMAR SAI	GOBINDPUR
910	ROLA	GOBINDPUR
911	KOMDIH	GOBINDPUR
912	BURUDIH	GOBINDPUR
913	ARIADA	GOBINDPUR
914	SURIAPOSI	GOBINDPUR
915	CHOKAY	GOBINDPUR
916	RAGHUNATHPUR	GOBINDPUR
917	ARJUNBILA	GOBINDPUR
918	CHOTA BANA	GOBINDPUR
919	UTIDIH	GOBINDPUR
920	PUHA	GOBINDPUR
921	DHOLADIH	GOBINDPUR
922	KATANGA	GOBINDPUR
923	GANGIDIH	GOBINDPUR
924	KERKI	GOBINDPUR
925	BANDNA	GOBINDPUR
926	UPARSIRA	GOBINDPUR

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927	KUMRASOL	GOBINDPUR
928	PUKHURIA	GOBINDPUR
929	ARAHASA	GOBINDPUR
930	KAMARBASA	GOBINDPUR
931	BHURKULI	GOBINDPUR
932	BARDIH	GOBINDPUR
933	CHAILMA	GOBINDPUR
934	BITA	GOBINDPUR
935	AMLA TALA	GOBINDPUR
936	SENAPOSHI	GOBINDPUR
937	SONGRIA	GOBINDPUR
938	SHYAM SUNDERPUR	GOBINDPUR
939	GULIA	GOBINDPUR
940	KITA	GOBINDPUR
941	CHOTAGIDI	GOBINDPUR
942	SENI	GOBINDPUR
943	HATISIRING	GOBINDPUR
944	DHOLADIH	GOBINDPUR
945	JADUDIH	GOBINDPUR
946	HERMA	GOBINDPUR
947	SARJAMDIH	GOBINDPUR
948	MAHULDIHA	GOBINDPUR
949	NIMDIH	GOBINDPUR
950	KERUGOT	GOBINDPUR
951	BADDIHI	GOBINDPUR
952	HENSAL	GOBINDPUR
953	DANGARDIHA	GOBINDPUR
954	CHANDANKSHIRI	GOBINDPUR
955	BANDADIH	GOBINDPUR
956	BALIDIH	GOBINDPUR
957	MAJGAON	GOBINDPUR
958	DUNGRIDIH	CHANDIL
959	DUBADIH	CHANDIL
960	HEREMDA	CHANDIL
961	DINAI	CHANDIL
962	PARKA	CHANDIL
963	SIDDIH	CHANDIL
964	PADADIH	CHANDIL
965	LENGDIH	CHANDIL
966	PATHRAKUN	CHANDIL
967	DUBRAJPUR	CHANDIL
968	BARABINDA	CHANDIL
969	DIMUDIH	CHANDIL
970	KESARGARIA	CHANDIL
971	RUYANI	CHANDIL
972	HATHNADA	CHANDIL
973	RASUNIA	CHANDIL
974	RAOTARA	CHANDIL
975	SUKH SHARI	CHANDIL
976	RAOTORA	CHANDIL
977	KANGLATANR	CHANDIL
978	RUCHAP	CHANDIL
979	CHANDIL (CT)	CHANDIL
980	LENGDIL	CHANDIL
981	SHIKLI	CHANDIL
982	KADAMDIH	CHANDIL
983	DALGAON	CHANDIL
984	GANGUDIH	CHANDIL
985	HIRMILI	CHANDIL
986	GHORALING	CHANDIL
987	DANRDA	CHANDIL
988	CHAINPUR	CHANDIL

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989	PATA	CHANDIL
990	SAHARBERA	CHANDIL
991	BARA LAKHA	CHANDIL
992	HUMID	CHANDIL
993	JOREYADIH	CHANDIL
994	HAMSADA	CHANDIL
995	KATJOR	CHANDIL
996	TULIN	CHANDIL
997	MAKULA KOCHA	CHANDIL
998	KADAMJHOR	CHANDIL
999	ASAN BANI	CHANDIL
1000	RAMGARH	CHANDIL
1001	KOPALI (CT)	CHANDIL
1002	TAMILIA	CHANDIL
1003	DOBO	CHANDIL
1004	RUGRI	CHANDIL
1005	GOURI	CHANDIL
1006	PUSISILI	CHANDIL
1007	KANDARBERYA	CHANDIL
1008	SAHARBERA	CHANDIL
1009	CHAKULIA	CHANDIL
1010	CHILGO	CHANDIL
1011	KARNIDIH	CHANDIL
1012	BHADUDIH	CHANDIL
1013	CHHOTA LAKHA	CHANDIL
1014	MANIKUI	CHANDIL
1015	TARKUVANG	CHANDIL
1016	KATEA	CHANDIL
1017	KHUCHIDIH	CHANDIL
1018	PAHARPUR	CHANDIL
1019	CHUTIAKHAL	CHANDIL
1020	DHOBAOTAMA	CHANDIL
1021	KADLAKOCHA	CHANDIL
1022	GUTIULI	CHANDIL
1023	BANSA	CHANDIL
1024	RUDIH	CHANDIL
1025	DHUNABURU	CHANDIL
1026	BALIDIH	CHANDIL
1027	KURLI	CHANDIL
1028	KHUNTI	CHANDIL
1029	TULGRAM	CHANDIL
1030	PALGAM	CHANDIL
1031	TIRILDIH	CHANDIL
1032	GHAT DULMI	CHANDIL
1033	MUSRIBERA	CHANDIL
1034	JUGA	CHANDIL
1035	RAIDIH	CHANDIL
1036	MADKAMDIH	CHANDIL
1037	SUDHAPUR	ADITYAPUR
1038	REARDA	ADITYAPUR
1039	SANTALDIH	ADITYAPUR
1040	RAGHUDIH	ADITYAPUR
1041	MURGAGHUTU	ADITYAPUR
1042	SHIBPUR	ADITYAPUR
1043	SALAMPATHAR	ADITYAPUR
1044	BARAMARI	ADITYAPUR
1045	RAIMARA	ADITYAPUR
1046	MAHTABERA	ADITYAPUR
1047	DUMRA	ADITYAPUR
1048	HANRIBHANGA	ADITYAPUR
1049	KANDRA (CT)	ADITYAPUR
1050	BANKIPUR	ADITYAPUR

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1051	PENDERBERA	ADITYAPUR
1052	GHUTUBERA	ADITYAPUR
1053	MANOHARPUR	ADITYAPUR
1054	JANGIBAD	ADITYAPUR
1055	BELTANR	ADITYAPUR
1056	GOPINATHPUR	ADITYAPUR
1057	BIKANIPUR	ADITYAPUR
1058	BIRDHAJPUR	ADITYAPUR
1059	CHOTA HARIHARPUR	ADITYAPUR
1060	PADAMPUR	ADITYAPUR
1061	SITARAMPUR	ADITYAPUR
1062	BARA HARIHARPUR	ADITYAPUR
1063	CHAMPANAGAR	ADITYAPUR
1064	RAPCHA	ADITYAPUR
1065	HARISUNDARPUR	ADITYAPUR
1066	MOHANPUR	ADITYAPUR
1067	MUSARI KUDAR	ADITYAPUR
1068	JAGARNATHPUR	ADITYAPUR
1069	NARAINPUR	ADITYAPUR
1070	BALRAMPUR	ADITYAPUR
1071	FOREST BLOCK	ADITYAPUR
1072	SALDIH	ADITYAPUR
1073	SANKERPUR	ADITYAPUR
1074	KALIKAPUR	ADITYAPUR
1075	RAMCHANDARPUR	ADITYAPUR
1076	CHOTA GAMAHRIA	ADITYAPUR
1077	UPARBERA	ADITYAPUR
1078	SIKHARDIH	ADITYAPUR
1079	SIDADIH	ADITYAPUR
1080	BARUBAD	ADITYAPUR
1081	JHURKULI	ADITYAPUR
1082	GONADIH	ADITYAPUR
1083	BIRAJPUR	ADITYAPUR
1084	SARUPDIH	ADITYAPUR
1085	DUGDHA	ADITYAPUR
1086	JHAR GAOBINDPUR	ADITYAPUR
1087	PAKHURGORA	ADITYAPUR
1088	NIMAIDIH	ADITYAPUR
1089	KHAKUDIH	ADITYAPUR
1090	BARA HARIHARPUR	ADITYAPUR
1091	NISCHITPUR	ADITYAPUR
1092	GOPI DIH	ADITYAPUR
1093	KENDUDIH	ADITYAPUR
1094	JAGANNATHPUR	ADITYAPUR
1095	CHORA	ADITYAPUR
1096	BHOLADIH	ADITYAPUR
1097	BALIGUMA	ADITYAPUR
1098	BIRBANS	ADITYAPUR
1099	KAMALPUR	ADITYAPUR
1100	RAMJIBONPUR	ADITYAPUR
1101	BARKATANR	ADITYAPUR
1102	HARIDIH	ADITYAPUR
1103	TIRILDIH	ADITYAPUR
1104	KOLABIRA	ADITYAPUR
1105	JAMBERA	ADITYAPUR
1106	PRATAPPUR	ADITYAPUR
1107	KHUCHIDIH	ADITYAPUR
1108	HUNDURBERA	ADITYAPUR
1109	JASPUR	ADITYAPUR
1110	RAIMASA	ADITYAPUR
1111	MURKUM	ADITYAPUR
1112	GURA	ADITYAPUR

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1113	JILINGBERA	ADITYAPUR
1114	ITAGARH	ADITYAPUR
1115	DUDRA	ADITYAPUR
1116	KAMALPUR	ADITYAPUR
1117	PARBATIPUR	ADITYAPUR
1118	BASTANDIH	ADITYAPUR
1119	BASURDA	ADITYAPUR
1120	NAYAGARH	ADITYAPUR
1121	NAYADIH	ADITYAPUR
1122	KOLUDIH	ADITYAPUR
1123	UJALPUR	ADITYAPUR
1124	TIRLA	ADITYAPUR
1125	PAGRODIHI	ADITYAPUR
1126	ADITYAPRATAPPUR	ADITYAPUR
1127	SOBHAPUR	ADITYAPUR
1128	JAIKAM	ADITYAPUR
1129	CHOTA JAMJORA	ADITYAPUR
1130	DARAIMACH	ADITYAPUR
1131	BARA JAMJORA	ADITYAPUR
1132	TIRILDIH	ADITYAPUR
1133	AMDIH	ADITYAPUR
1134	MAHULDIH	ADITYAPUR
1135	KUMHAREA	ADITYAPUR
1136	DHATKIDIH	ADITYAPUR
1137	BAMDIH	ADITYAPUR
1138	BANDIH	ADITYAPUR
1139	BINDAPUR	ADITYAPUR
1140	UKAM	ADITYAPUR
1141	SAMRAM	ADITYAPUR
1142	AWLATANR	ADITYAPUR
1143	SINDUKOPA	ADITYAPUR
1144	JHARIDIH	ADITYAPUR
1145	BEGNADIH	ADITYAPUR
1146	GOHIRA	ADITYAPUR
1147	RAIDIH	ADITYAPUR
1148	TETOPOSI	ADITYAPUR
1149	TIRINTIPA	ADITYAPUR
1150	DUBRAJPUR	ADITYAPUR
1151	UGMA	ADITYAPUR
1152	RAMNAGAR	ADITYAPUR
1153	HIDIBILI	ADITYAPUR
1154	NARAINPUR	ADITYAPUR
1155	ASANBANI	ADITYAPUR
1156	HALADBANI	ADITYAPUR
1157	BALIPOSI	ADITYAPUR
1158	JHAPRAGURA	ADITYAPUR
1159	GHAGI	ADITYAPUR
1160	DHADKIDIH	ADITYAPUR
1161	SAHEBGANJ	ADITYAPUR
1162	DADIAMARA	ADITYAPUR
1163	BANDDIH	ADITYAPUR
1164	SINGHPUR	ADITYAPUR
1165	BARA KANKRA	ADITYAPUR
1166	MADHUPUR	ADITYAPUR
1167	RAMCHANDARPUR	ADITYAPUR
1168	HARDALA	ADITYAPUR
1169	GUNA DIH	ADITYAPUR
1170	NATA DIH	ADITYAPUR
1171	BHALUBASSA	ADITYAPUR
1172	DARAIKOCHA	ADITYAPUR
1173	THASAKPUR	ADITYAPUR
1174	NUA DIH	ADITYAPUR

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1175	SUBARNAPUR	ADITYAPUR
1176	TIUNIA	ADITYAPUR
1177	KUL DIHA	ADITYAPUR
1178	CHANDANPUR	ADITYAPUR
1179	ADITYAPUR MUNICIPALITY	ADITYAPUR
1180	PORA DIH	ADITYAPUR
1181	GAURANGDIH	ADITYAPUR
1182	SUNDERPUR	ADITYAPUR
1183	BARHMATANR	ADITYAPUR
1184	NAWA DIH	ADITYAPUR
1185	BURUDIH	ADITYAPUR
1186	SIRDHARPUR	ADITYAPUR
1187	BARDIH	ADITYAPUR

ANNEXURE-IV

SCREENSHOT OF DSR UPLOADED ON SARAIKELA.KHARSAWAN.NIC.IN PORTAL

झारखंड सरकार | Government of Jharkhand

सरायकेला-खरसावाँ
SERAIKELA KHARSAWAN

UPLOADED ON PORTAL
19/07/2024

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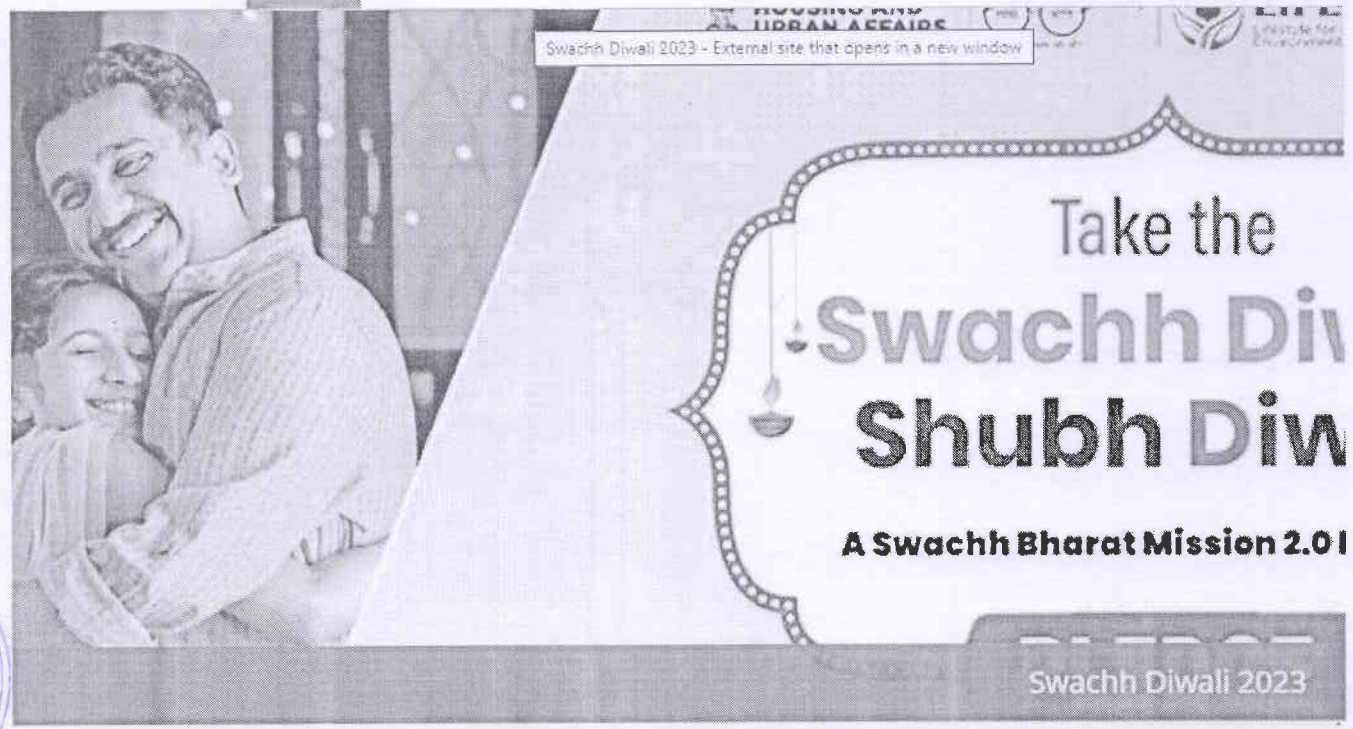

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District survey report (DSR) of stone minerals under Seraikela-Kharsawan district : Report

ANNEXURE-V

NEWSPAPER ADVT. COPY

DAINIK JAGRAN- 06/08/2024

जिला खनन का कार्यालय, सरायकेला–खरसावाँ
(खनन शाखा)

:: आवश्यक सूचना ::

अनुमण्डल पदाधिकारी, –सह– अध्यक्ष Sub Divisional Committee के निदेशानुसार सरायकेला–खरसावाँ जिला के लघु खनिजों (बालू को छोडकर) के बाबत बनाये गये अद्यतन जिला सर्वेक्षण रिर्पोट (DSR) की ड्राफ्ट प्रति आम नागरिक से सुझाव प्राप्त करने हेतु (DSR) को जिले के Website में प्रदर्शित किया गया है। अतः सर्वसाधारण को सूचित किया जाता है कि जिले के Website में Upload किये गए पत्थर लघु खनिज का जिला सर्वेक्षण प्रतिवेदन (DSR) में यदि कोई मंतव्य/सुझाव देना चाहते है तो किसी भी कार्य दिवस में जिला खनन कार्यालय, सरायकेला–खरसावाँ में लिखित रूप से दे सकते है ।

PR 331914 (Mines and Geology)24-25'D

जिला खनन पदाधिकारी,
सरायकेला–खरसावाँ

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ANNEXURE-VI

POLLUTION LOAD OF EXISTING MINES

PM Emission Load during Mining Operations-Saraikela DSR

During mining activity, the emission may arise due to various mining operations i.e. drilling, blasting, excavation and transportation. While calculating load coming out from various activities of these mines, several data related challenges has been observed i.e. activity area, maximum annual production etc. In mining operations, major contributor of pollution is the dust coming out from various activities at mine site. To streamline the calculation of PM emissions, following assumptions have been made:

1. Area of activity at a time is taken as 100 x 100 sqm.
2. To obtain maximum production in TPA, available mineable reserve was divided by total years of the mine lease.
3. Drilling and blasting are not considered in the modelling scenario as these activities are not continuous operation.
4. Emission from 200 m haul road for each mine is taken into consideration however they are different in route and different in distance travelled for different mines.

While calculating the load following parameters are taken in to considerations:

1. Average Wind Speed 2.6 m/s is taken.
2. Working Hours per day is taken as 8 hours.
3. Total 300 numbers of working days in a year are taken.
4. Moisture content in the soil is taken as 5%.
5. Silt content on the road is taken 22%.
6. To control the emission, water sprinkling as air pollution control measure with efficiency of 60% is considered.

Based on the assumptions and input data, the calculated PM emission rate from different mines would be as follows:

Table 1: PM Emission Rate

S.No.	Name of the Lessee	Area, Acre	Production, Tonnes	Mine Lease, Years	Production, TPA	PM, g/s/m2 (Mine)		PM, g/s (Transportation)	
						Uncontrolled	Controlled	Uncontrolled	Controlled
1	M/S Harelal Contruction	4.69 Acre	308767	19.09.2015 to 18.09.2025	30876.7	6.9 x E-08	2.8 x E-08	0.0606	0.0243
2	Shri Charu Chand Kisku	6.94 Acre	11649510	15.12.2016 to 14.12.2026	1164951	2.6 x E-06	1.04 x E-06	2.29	0.92
3	M/s Bhagwati Stone Crushers	5.00 Acre	1304472	18.06.2016 to 17.06.2026	130447.2	2.91 x E-07	1.17 x E-07	0.26	0.102
4	M/s Kiran Enterprises, Prop. Shri Balwinder Singh	3.45 Acre	3839410	19.07.2015 to 18.07.2025	383941	8.57 x E-07	3.43 x E-07	0.75	0.301
5	M/s Leading Construction, Prop. Shri Jaiprakash Singh	5.20 Acre	2960634	19.09.2015 to 18.09.2025	296063.4	6.61 x E-07	2.64 x E-07	0.58	0.23
6	M/S Bimaldeep Infrastructure	38.91 Acre		04/05/2016 to 03/05/2026					
7	M/s Shaligram Infrastructures Pvt. Ltd., Director-Mr. Rupak Pasari,	5.25 Acre	491239	22/07/2016 to 21/07/2026	49123.9	1.1 x E-07	4.39 x E-08	0.096	0.038
8	Triveni Engineers Pvt. Ltd., Director- Mr. Anand Dodrajka	14.00 Acre		22.11.2016 to 21.11.2026					

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S.No.	Name of the Lessee	Area, Acre	Production, Tonnes	Mine Lease, Years	Production, TPA	PM, g/s/m2 (Mine)		PM, g/s (Transportation)	
						Uncontrolled	Controlled	Uncontrolled	Controlled
9	Triveni Engineers Pvt. Ltd., Director- Mr. Anand Dodrajka,	3.81 Acre	373400	22.11.2016 to 21.11.2026	37340	8.34 x E-08	3.34 x E-08	0.073	0.029
10	Triveni Engineers Pvt. Ltd., Director- Mr. Anand Dodrajka	9.03 Acre	693986	16/12/2016 to 15/12/2026	69398.6	1.55 x E-07	6.2 x E-08	0.136	0.055
11	M/s Rajeshwari Minerals, Prop. Shri Gyan Murthy Shah	11.75 Acre		27.09.2016 to 26.09.2026					
12	M/s Balaji Minerals, Prop. Mr. Gyan Murthy Shah,	12.17 Acre		30.12.2016 to 29.12.2026					
13	M/s Chanduka Minerals and Chemicals Pvt. Ltd., Director- Mr. Sangam Agarwal	11.30 Acre		04.10.2015 to 03.10.2025					
14	Mr. Varun Mundhada,	8.40 Acre		04.10.2015 to 03.10.2025					
15	Triveni Engineers Pvt. Ltd., Director- Mr. Anand Dodrajka,	8.01 Acre		04/05/2016 to 03/05/2026					
16	M/s Premium Infra Logistics private Limited Director Sri Nitin Maheshwari	12.20 Acre		30/04/2016 to 29/04/2026					

S.No.	Name of the Lessee	Area, Acre	Production, Tonnes	Mine Lease, Years	Production, TPA	PM, g/s/m2 (Mine)		PM, g/s (Transportation)	
						Uncontrolled	Controlled	Uncontrolled	Controlled
17	M/s Singhdev Minerals, Prop. Shri Nav Kishore Singhdev,	6.00 Acre	472678	29.02.2016 to 28.02.2026	47267.8	1.06 x E-07	4.22 x E-08	0.093	0.037
18	'Mrs. Rajshree, Husband Mr. Arun Kuma	3.30 Acre		27.01.2016 to 26.01.2026					
19	M/s Balaji Infocom, Prop. Shri Manish Kumar	3.35 Acre	1227501	18.09.2017 to 17.09.2027	122750.1	2.74 x E-07	1.1 x E-07	0.24	0.096
20	M/s Harelal Construction Co. Pvt. Ltd., Director- Harelal Mahato,	4.98 Acre	306735	19.09.2017 to 18.09.2027	30673.5	6.85 x E-08	2.74 x E-08	0.0602	0.0241
21	M/s Mata Enterprises, Prop. Shri Tarun Kumar Dey,	4.50 Acre	1222223	11.09.2017 to 10.09.2027	122222.3	2.73 x E-07	1.09 x E-07	0.24	0.096
22	M/s Shri Sai Minerals, Prop. Smt. Smriti Anand,	1.96 Acre		19.09.2017 to 18.09.2027					
23	Mr. Pradeep Singh, Father- Mr. Rajendra Singh	6.80 Acre	267288	19.09.2017 to 18.09.2027	26728.8	5.97 x E-08	2.39 x E-08	0.05	0.02
24	Mr. Sandeep Karmakar, Father- Mr. Sapan Karmakar,	2.00 Acre	52904	07.11.2017 to 06.11.2027	5290.4	1.18 x E-08	4.73 x E-09	0.01	0.0042
25	Mohd. Mustufa Ansari, Father- Mohd. Hussain,	8.22 Acre	420411.0	13.08.2017 to 12.08.2027	420411	9.39 x E-07	3.75 x E-07	0.83	0.33

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S.No.	Name of the Lessee	Area, Acre	Production, Tonnes	Mine Lease, Years	Production, TPA	PM, g/s/m2 (Mine)		PM, g/s (Transportation)	
						Uncontrolled	Controlled	Uncontrolled	Controlled
26	M/s Leading Construction, Prop. Shri Jaiprakash Singh	5.34 Acre	1255561	17.08.2017 to 16.08.2027	125556.1	2.8 x E-07	1.12 x E-07	0.25	0.099
27	M/s Bhagwati Stone Crushers, Shri Manoj Kumar,	4.08 Acre	1291205	12.09.2017 to 11.09.2027	129120.5	2.88 x E-07	1.15 x E-07	0.2523	0.1015
28	M/s Lord's Infacon Pvt. Ltd., Director- Shri Mahendra Gope	4.01 Acre		16.11.2017 to 15.11.2027					
29	M/s Loyal Constructors Pvt. Ltd., Director- Shri Upendra Kumar Singh	3.21 Acre		16.11.2017 to 15.11.2027					
30	M/s Ramlal & Sons, Prop. Shri Krishnanand Singh,	2.08 Acre		16.11.2017 to 15.11.2027					
31	M/s Chanduka Minerals, Prop- Shri Rajkumar Aggarwal	34.54 Acre		26.03.2012 to 20 Year					
32	M/s Jagannath Cement Works Pvt. Ltd.	33.715 Acre		20.12.2004 to 20 Year					
33	M/s Matagi Enterprises Pvt. Ltd.,	23.01 Acre		21.06.2006 to 20 Year					
34	Ganga Engineering, Partner- Shri Nirbhay Singh,	77.49 Acre		16.03.2005 to 20 Year					

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S.No.	Name of the Lessee	Area, Acre	Production, Tonnes	Mine Lease, Years	Production, TPA	PM, g/s/m2 (Mine)		PM, g/s (Transportation)	
						Uncontrolled	Controlled	Uncontrolled	Controlled
35	Shri Arun Kumar Tudu, Father- Late Mohan Manjhi	3.00 Acre		25.07.2022 to 30.06.2025					
36	M/s Harelal Construction Co. Pvt. Ltd., Director Shri Rudra Pratap Mahato	Total Area 3.48 Acre		05.12.2022 to 02.02.2032					
37	M/s Lakshmi Enterprises, Partner- Shri Vikash Saw	6.91 Acre	5373291	24.01.2023 to 24.10.2025	2686646	6.0 x E-06	2.4 x E-06	5.3	2.11
38	M/s Leading Construction, Prop. Shri Jaiprakash Singh,	5.33 Acre		31.01.2023 to 25.08.2024					
39	Aarohi Impex & Trade Links Abhishek Agarwal,	4.50 Acre	1262495	28.03.2023 to 31.08.2025	631247.5	1.41 x E-06	5.64 x E-07	1.24	0.49
40	Kolhan Infrastructure and Mining Pvt. Ltd. Director Shri Chiranjeevi Kuchi,	7.11 Acre		08.04.2023 to 07.03.2028					
41	'Sshri Padamlochan Mahto,Father- Late Shreekant Mahto,	1.09 Acre		28.07.2023 to 27.07.2033					

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ANNEXURE-VII

OLD AND EXISTING MINES LIST

Sl. No.	Name of Mineral	Name of the Lessee (Lessee Code)	Mouza	Mining Lease Grant Order No. & Date	Area of Mining Lease (Ha)	Period of Mining Lease		Status (Working/Non Working/Temp. Working For Dispatch Etc.)	Captive/ Non Captive	Obtained Environmental Clearance(Yes/No), If Yes Letter No with Date of Grant of EC.	Location of The Mining Lease (Latitude & Longitude)	Method of Mining (Opencast/Underground)	Mineral
						From	To						Ton
1	Stone	Shri Radha Krishna Jaiswal (0103368901)	LENGDIH PLOT- 1P, KHATA-184	1007/AMO 25.02.2011	9.510	25.02.2011	24.02.2021	Expired	Captive	Letter no 103 Order no 06 Aug 2013 Valid upto 24 Feb 2021	Location - Leungdih Block Chandil 22° 59' 11.40" N 85° 54' 57.32" E 22° 59' 16.21" N 85° 54' 57.03" E 22° 59' 20.15" N 85° 55' 17.02" E 22° 59' 15.95" N 85° 55' 17.54" E	Opencast	120000
2	Stone	Charu Chand Kisku (0103765601)	KONGLATAND PLOT-167,168	15.12.2016	2.428	15.12.2016	14.12.2026	Working	Captive	EC/SEIAAA/2014-15/481/2014/219, Order date 07 Aug 2015, valid up to 14 Dec 2026	Location- Kanglatanr Block- Chandil 22° 58' 30.37" N 86° 3' 43.70" E	Opencast	11649510
3	Stone	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	BHADUDIH PLOT-2261(P), 2241, 2242	18.08.2017	1.87	19.09.2015	18.09.2025	Temporarily Discontinued	Captive	EC/DEIAA/SARAIKELA/2016-17/50 Order date 21 Mar 2017, valid up to 18 Sep 2027	Location- Bhadudih Block- Chandil N - 22°54'36.3" to 22°54'40.8" E- 86°05'35.3" to 86°05'40"	Opencast	308767
4	Stone	Shri Hare Lal Mahato (0103372701)	BHADUDIH PLOT-2261P KHATA-430	1090 26.01.2009	0.80	26.01.2009	25.01.2019	Expired	Captive	EC/DEIAA/SKL/2016-17/32 DEIAA, Order date 17 Oct 2016, valid up to 25 Jan 2019	Location- Bhadudih Block- Chandil N- 22°43'30.2" to 22°43'37.57" E- 86°02'0.8" to 86°02'11.57"	Opencast	135872
5	Stone	M/s G.M. Enterprises	BHDUDIH PLOT- 2177,2178P	3784/3772 08.07.2010	1.110	07-08-2010	07.07.2020	Expired	Captive	EC/DEIAA/SARAIKELA/2016-17/51, Order date 21 Mar 2017, valid up to 07 July 2020	Location- Bhadudih Block- Chandil 22° 54' 47.7" N 86° 05' 13.6" E 22° 54' 44.1" N 86° 05' 17.7" E	Opencast	485952
6	Stone	Shri Dipal Chandra Mahato (0103373501)	BHADUDIH PLOT-1478P KHATA-74	2000/1990 10.03.2011	2.023	10.03.2011	09.03.2021	Expired	Captive	EC/DEIAA/SARAIKELA/2017-18/74 DEIAA, Order date 26 August 2017	Location- Bhadudih Block- Chandil	Opencast	494465
7	Quartzite	M/s Balaji Infocom Proprietor Manish Agarwal	BANDARISAI PLOT NO-1112, 1113, 1111, 1093, 1114, & 1092,	2352/2237 14.08.2017	0.460	14.08.2017	13.08.2027	Working	Captive	EC/DEIAA/SARAIKELA/16-17/47, Order date 21 Mar 2017, valid up to 17 Sep 2027	Location- Bhandarisai Block- Saraikela N - 22°37'59.34" to 22°37'48.16" E - 85°55'40.36" to 85°55'29.19"	Opencast	1227501
8	Stone	M/s G.V.R. Infra Project Ltd. (0103372101)	BHADUDIH	73 09.02.2010	3.29	09.02.2010	08.02.2020	Expired	Captive	2015-16/1196/2015/1819, Order dt. 23 Nov 2015, Valid upto 28 Jan 2020	Location- Bandua Block- Saraikela 22° 37' 14.60" N 85° 55' 21.15" E 22° 36' 58.47" N 85° 55' 18.24" E	Opencast	1150082

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9	Stone	M/s Kiran Enterprises (0103110602)	BIDRI PLOT-1117P	19.07.2015	1.49	19.07.2015	18.07.2025	Working	Captive	EC/DEIAA/SKL/2016-17/31/DEIAA, Order date 17 Oct 2016, Valid up to 19 July 2025	Location- Bidri Block- Saraikela 22° 39' 56.71" N 86° 09' 47.08" E 22° 39' 55.12" N 86° 09' 52.18" E	Opencast	3839410
10	Stone	Sri Vivek Kumar Singh , (0103369101)	CHILGU PLOT-804P,829,830	15.05.2015	2.14	15.05.2015	14.05.2020	Expired	Captive	EC/SEIAA/2015-16/727/2015/1143 Order date27 July 2015 Up to 14 May 2020	Location- Chilgu Block- Saraikela 22° 53' 54.6" N 86° 06' 21.3" E 22° 53' 49.08" N 86° 06' 22.5" E	Opencast	495725
11	Stone	Shri Narendra Singh (0103370101)	BHADUDIH PLOT-18P,20P KHATA-430	424/AMO 31.08.2011	1.540	31.08.2011	30.08.2021	Expired	Captive	Letter no 2528 Order date 31 Dec 2015 Valid upto 31 Aug 2021	Location- Chandil Block- Saraikela Latitude N 22°55'03.26" to N 22°55'07.63" Longitude E 86°05'1.92" to E 86°05'12.60"	Opencast	283106
12	Stone	M/s G.V.R. Infra Project Ltd. (0103372102)	GANGIDIH PLOT-106 KHATA-26	5242/5224 13.08.2010	3.72	13.08.2010	12.08.2020	Expired	Captive	2015-16/1921/2015/2623, Order dt. 31 Dec 2015, Valid upto 12 Aug 2020	Location-Gangidih Block- Saraikela 22° 37' 22.88" N 85° 55' 17.22" E 22° 37' 20.09" N 85° 55' 34.33" E	Opencast	939467
13	Stone	M/s Sun Eco Trading Sistem Pvt. Ltd.	GORANGKOCHA PLOT-2032,2085P, KHATA-200	218 05.11.2012	1.215	05.11.2012	04.11.2022	Expired	Captive	Letter No 368, Ranchi, Order dt. 07 May 2014	Location- Gourangkocha Block- Ichagarh 22° 59' 45" N 85° 57' 22" E 22° 59' 49" N 85° 57' 29" E	Opencast	189599
14	Stone	M/s Anjani Minerals (0103373701)	JORDIHA PLOT-847P KHATA-256	762 18.04.2017	2.570	18.04.2017	17.04.2022	Expired	Captive	EC/SEIAA/2014-15/631/2015/874, Order dt. 01 May 2015, Valid upto 30 Apr 2025	Location- Joddiha Block- Saraikela 22° 39' 22.2" N 85° 54' 22.1" E 22° 43' 52.2" N 85° 52' 47.6" E	Opencast	746932
15	Stone	Md. Mustafa Ansari (0103061901)	JORDIHA PLOT-509P KHATA-265	2244/2132 30.12.2016	3.320	13.08.2017	12.08.2027	Working	Captive	SARAIKELA/2016-17/33/DEIAA, Order dt. 17 Oct 2016, Valid upto 12 Aug 2027.	Location- Joddiha Block- Saraikela N - 22°36'36.9" to 22°36'29.8" E- 85°55'18.2" to 85°55'17.7"	Opencast	4204110
16	Stone	Shri Kashi Nath Sharma (0103371501)	JUMAL PLOT-497 KHATA-204	31.07.2014	0.980	31.07.2014	30.07.2024	Expired	Captive	EC/SEIAA/2014-15/558/2014/858, Order dt. 01 May 2015,	Vill- Jumal Block- Saraikela N - 22°36'06.1" to 22°36'11.4" E - 86°05'05.0" to 86°05'10.4"	Opencast	209614
17	Stone	M/s Laxmi Enterprises (0103373101)	BADKANKI PLOT-11, 12(p), 13, 14, & 15(p),	29.09.2011	4.710	24.09.2020	31.03.2022	Working	Captive	Letter No- 2378, Order dt. 30 Dec 2015, Valid upto 24 Sep 2020	Location- Katanga Block- Saraikela 22° 36' 59.0" N 85° 56' 01.5" E 22° 36' 58.0" N 85° 56' 24.0" E 22° 36' 53.0" N 85° 56' 02.0" E 22° 36' 54.0" N 85° 56' 24.5" E	Opencast	5373291

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18	Stone	M/s Bhadoria Transport Co (0103371701)	LENGDIH PLOT- 1P, KHATA-184	1189/1128 28.08.2015	4.352	28.08.2015	27.08.2025	Expired	Captive	EC/SEIAA/15-16/1893/2015/2492, Order dt. 31 Dec 2015, Valid upto 26 Aug 2025	Location- Lengdih Block- Saraikela 22°59'18.63" N 85°55'28.41" E 22°59'26.51" N 85°55'39.05" E 22°59'15.12" N 85°55'28.93" E 22°59'15.56" N 85°55'40.14" E	Opencast	583120
19	Stone	M/s Nav Nirman Builders 0103372801	LENGDIH PLOT- 1P, KHATA-184	1105 27.12.2010	3.540	27.12.2010	26.12.2020	Expired	Captive	EC/SEIAA/2015-16/1894/2015/2491, Order dt. 31 Dec 2015, Valid upto 26 Dec 2020	Location- Lengdih Block- Saraikela 22° 59' 15.56" N 85° 55' 39.05" E 22° 59' 18.54" N 85° 55' 42.15" E	Opencast	221115
20	Stone	Bhagwati Stone Crusher (0103370601)	MEDKI PLOT- 703P	18.06.2016	2.020	18.06.2016	17.06.2026	Working	Captive	EC/SEIA/2015-16/1181/2015/2003, Order dt. 30 Nov 2015, Valid upto 18 Jun 2026	Location- Medki Block- Saraikela 22° 36' 17.4" N 85° 54' 57.0" E 22° 36' 13.0" N 85° 54' 57.0" E 22° 36' 15.3" N 85° 55' 02.4" E 22° 36' 13.1" N 85° 55' 00.7" E	Opencast	1304472
21	Stone	M/s G.V.R. Infra Project Ltd. (0103372103)	MEDKI PLOT- 77 KHATA-55	661 09.10.2010	4.08	09.10.2010	08.10.2020	Expired	Captive	EC/SEIA/2015-16/1198/2015/1820, Order dt. 23 Nov 2015, Valid upto 08 July 2020	Location- Medki Block- Saraikela 22° 34' 47.30" N 86° 55' 04.47" E 22° 36' 51.17" N 85° 55' 14.68" E	Opencast	678027
22	Stone	M/s Chanduka Minerals and chemicals pvt ltd 0103019501	MURKUM PLOT- 1588 KHATA-178	3652/3536 04.10.2015	4.570	04.10.2015	3.10.2025	Non-Working	Captive	EC/SEIAA/2015-16/776/2015/1194, Order dt. 07 Aug 2015, Valid upto 03 Oct 2025	Location- Murkum Block- Saraikela 22° 37' 52.6" N 85° 53' 40.53" E 22° 37' 45.29" N 85° 53' 57.05" E	Opencast	1152785
23	Stone	APS Enterprises (0103521101)	NUADIH PLOT- 82P,83,84,88 KHATA-88	21.06.2016	3.58	21.06.2016	20.06.2021	Expired	Captive	EC/SEIAA/2015-16/1686/15/2338, Order dt. 30 Dec 2015, Valid upto 20 June 2021	Location- Noadihi Block- Saraikela 22° 39' 51.41" N 85° 55' 5.64" E 22° 39' 30.53" N 85° 55' 9.17" E	Opencast	1210821
24	Stone	APS Enterprises (0103521102)	NUADIH PLOT-145 KHATA-88	21.06.2016	2.460	21.06.2016	20.06.2021	Expired	Captive	EC/SEIAA/15-16/1558/2015/2241, Order dt. 30 Dec 2015, Valid upto 20 June 2021	Location- Noadihi Block- Saraikela 22° 39' 18.88" N 85° 54' 45.73" E	Opencast	501033
25	Stone	Shri Jagdish Chandra Mahato (0103372201)	RAMNAGAR PLOT-1390P KHATA-214	754 01.01.2010	2.882	01.01.2010	31.12.2019	Expired	Captive	EC/SEIA/2015-16/1769/2015/2495, Order dt. 12 Dec 2015, Valid upto 31 Dec 2019	Location- Ramnagar Block- Saraikela 23° 00' 5.2" N 86° 07' 8.4" E 23° 00' 2.8" N 86° 07' 3.1" E 22° 59' 59.5" N 86° 07' 14.1" E 22° 59' 58.3" N 86° 07' 12.1" E	Opencast	996476

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26	Stone	SMT SUMAN CHIRANIA (0103372301)	RAMNAGAR PLOT-1390P KHATA-214	2421/2294 01.01.2010	2.885	01.01.2010	31.01.2020	Expired	Captive	EC/SEIAA/2015-16/1770/15/2573, Order dt. 31 Dec 2015, Valid upto 31 Dec 2019	Location- Ramnagar Block- Saraikela 23° 00' 2.8" N 86° 07' 3.1" E 22° 59' 55.4" N 86° 07' 7.4" E	Opencast	436388
27	Stone	Shri Ghashiram Kisku (0103372401)	ROYADIH PLOT-1948 KHATA-157	217 03.10.2013	0.51	03.10.2013	02.10.2023	Expired	Captive	Letter No. - 366, Order dt. 07 May 2014, valid upto 02 Oct 2023	Location- Royadih Block- Saraikela 25° 58' 46.7" N 85° 58' 32.1" E 22° 58' 44.8" N 85° 58' 31.6" E 22° 58' 46.3" N 85° 58' 34.4" E 22° 58' 44.0" N 85° 58' 32.9" E	Opencast	20139
28	Stone	Shri Pradip Kumar Jaiswal 0103373801	RUCHAP PLOT-622P KHATA-288	216 06.08.2013	1.030	07.05.2014	06.05.2024	Expired	Captive	Letter No. - 367, Order dt. 07 May 2014, valid upto 06 May 2024	Location- Ruchap Block- Saraikela 22° 58' 20.6" N 86° 02' 47.9" E 22° 58' 18.7" N 86° 02' 47.3" E 22° 58' 20.5" N 86° 02' 53.0" E 22° 58' 18.4" N 86° 02' 52.9" E	Opencast	267288
29	Stone	Shri Dulal Nandi (0103373201)	RUTDIH PLOT-237,247P KHATA-132	25.02.2011	3.060	25.02.2011	24.02.2021	Expired	Captive	EC/SEIA/2015-16/1850/2015/2601, Order dt. 31 Dec 2015, Valid upto 04 Mar 2021	Location- Rutdih Block- Saraikela 22° 37' 31.55" N 86° 04' 32.83" E 22° 37' 17.04" N 86° 04' 28.13" E 22° 37' 29.51" N 86° 04' 33.30" E 22° 37' 16.74" N 86° 04' 30.80" E	Opencast	1100692
30	Stone	M/s G.V.R. Infra Project Ltd. (0103372104)	ULIDIH PLOT-07 KHATA-110	5712/5693 07.10.2010	2.97	07.10.2010	06.10.2020	Expired	Captive	2015-16/1197/2015/1821, Order dt. 23 Nov 2015, Valid upto 06 Oct 2020	Location- Ulidih Block- Saraikela 22° 34' 14.60" N 85° 55' 21.15" E 22° 37' 32.20" N 85° 55' 25.54" E	Opencast	136990
31	QUARTZITE	Shri Janak Raj Goyal (0103369501)	PATHSESAL PLOT-686P KHATA-170	02.06.2014	1.21	02.06.2014	01.06.2024	Expired	Captive	EC/SEIAA/2014-15/456/2014/849, Order dt. 17 Aug 2015, Valid upto 01 Jun 2021	Location- Patahesal Block- Saraikela 22° 42' 14.4" N 85° 52' 46.8" E 22° 42' 10.07" N 85° 52' 49.3" E	Opencast	269500
32	STONE	M/s Leading Construction (0103374201)	SOSOMULI PLOT NO - 132, KHATA NO - 93	2753 dt 01 Sep 2015	2.250	19.09.2015	18.09.2025	Working	Captive	EC/SEIAA/2015-16/894/2015/1290 Order dt. 17 Aug 2015, Valid upto 16 Aug 2025	Location- Sosomuli, 22°41'21.58" N 86°07'8.6" E 22°41'16.10" N 86°07'9.73" E	Opencast	1220049

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33	Stone	M/s Leading Construction (0103616002)	RAYDIH PLOT-117 KHATA-37	1888/1792 30.12.2016	2.160	17.08.2017	16.08.2027	Working	Captive	EC/DEIAA/SARAIKELA/2016-17/28, Order dt. 17 Oct 2016, Valid upto 16 Aug 2027	Location- Raidih Block- Saraikela 22° 41' 21.58" N 86° 07' 8.6" E 22° 41' 16.10" N 86° 07' 9.73" E 22° 41' 20.10" N 86° 07' 20.10" E 22° 41' 14.52" N 86° 07' 11.05" E	Opencast	2960634
34	Stone	M/s Raja Minerals (0103370701)	BARATAGRANI PLOT-01P KHATA-102	4954/4937 04.09.2010	1.214	04.09.2010	03.09.2020	Expired	Captive	SARAIKELA/2017-18/06/DEIAA	Location - Bara Tengrani Block - Saraikela 22° 40' 55.67" N 85° 54' 23.51" E	Opencast	121596
35	Stone	M/s Madhucon Projects Limited (0103037001)	SERENGDIH PLOT-10P KHATA-86	2827/2744 16.03.2017	3.240	16.06.2017	15.06.2019	Expired	Captive	Letter No - 93 dt. 17.05.2013	Location - Serengdih Block - Icha Garh 22° 39' 56.71" N 86° 09' 47.08" E 22° 39' 55.12" N 86° 09' 52.18" E	Opencast	3000000
36	Stone	M/s Singhdeo Minerals (0103052201)	BARGAON PLOT-142 A	295 29.02.2016	2.430	23.11.2015	28.02.2026	Working	Captive	EC/SEIAA/15-16/1381/2015/1807, Order dt. 23 Nov 2015, Valid upto 28 Feb 2026	Location - Badagaon Block - Kharsawan 22° 46' 50.2" N 85° 53' 28.7" E 22° 46' 50.2" N 85° 53' 25.5" E	Opencast	472678
37	Quartzite	Rajashri Pati (0103515301)	JAIKAN PLOT-1304 KHATA-141	27.01.2016	1.34	27.01.2016	26.01.2026	Working	Captive	EC/SEIAA/2015-16/976/2015/1621, Order dt. 30 Sep 2015, Valid upto 26 Jan 2026	Location - Jaikan Block - Gamharia 22° 42' 49.74" N 86° 06' 45.49" E 22° 42' 46.08" N 86° 06' 47.21" E	Opencast	69615
38	Stone	Shri Sunil Kumar Mandal Shri Rakesh Kumar Jaiswal (0103374101)	BDA KUNDABERA PLOT-24P KHATA-251	20.06.2014	2.020	20.06.2014	19.06.2024	Expired	Captive	EC/SEIAA/15-16/1753/2015/2489, Order dt. 31 Dec 2015, Valid upto 19 Jun 2024	Location - Bada Kunabera Block - Rajnagar 22° 42' 47.94" N 86° 05' 38.88" E 22° 42' 41.80" N 86° 05' 40.50" E	Opencast	123926
39	Stone	Triveni Engicons Pvt Ltd 0103111801	BALRAMPUR PLOT-1028	16.12.2016	1.540	17.10.2016	15.12.2026	Non-Working	Captive	EC/DEIAA/SKL/2016/17/29/DEIAA, Order dt. 17 Oct 2016 Valid upto 15 dec 2026	Location - Baliyasai Block - Rajnagar N - 22°41'26.06" To 22°41'32.13" E - 86°07'24.60" To 86°07'30.02"	Opencast	373400
40	Stone	ABS Enterprises (0103692701)	BDA KUNDABERA PLOT-1837,1885 KHATA-252	01.05.2016	2.173	01.06.2016	31.05.2021	Expired	Captive	EC/SEIAA/15-16/1439/2015/2251 dt. 30/12/2015	Location - Barakunabera Block - Rajnagar 22° 41' 55.37" N 86° 06' 20.87" E 22° 41' 46.30" N 86° 06' 26.52" E	Opencast	266156
41	Stone	M/s Shaping Mines and Minerals Pvt. Ltd.	BHURKULI PLOT-431 KHATA-77	21.01.2017	1.680	21.01.2017	20.01.2022	Expired	Captive	EC/SEIAA/2014-15/373/2014/851 Order dt. 30 Apr 2015 Valid upto 22 Jan 2022	Location - Bhurkuli Block - Rajnagar 22° 35' 24.3" N 85° 56' 57.3" E 22° 35' 18.1" N 85° 57' 00.5" E	Opencast	853824

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42	Quartzite	Shri Pradeep Singh (0103253601)	CHHOTA KUNDABERA PLOT-84 KHATA-98	2050/1945 17.08.2017	2.752	21.03.2017	18.09.2027	Working	Captive	EC/DEIAA/SKL/2016-17/52, Order dt. 21 Mar 2017, Valid upto 18 Sep 2027.	Location -Chota Kunabera Block - Rajnagar 22° 42' 38.05" N 86° 6' 53.81" E	Opencast	331328
43	Stone	Shri Ajit Pradhan (0103374001)	MAGHWAON GAMRIA PLOT-140,438 KHTA-32,201	281/269 15.04.2013	1.42	15.04.2013	14.04.2023	Expired	Captive	EC/SEIAA/2014-15/688/2015/1270, Order dt. 11 Aug 2015, Valid upto 13 Apr 2023	Location- Gamharia and Majhgaon Block- Rajnagar N 22°37'55" E 86°03'71" N 22°37'55" E 86°03'71"	Opencast	204131
44	Stone	M/s M.K metals and Minerals 0103373301	MUCHIASAI PLOT-247P KHATA-167	20.10.2017	3.500	20.10.2017	18.02.2021	Expired	Captive	EC/DEIAA/SKL/2016-17/30/DEIAA, Order dt. 17 Oct 2016, Valid upto 18 Feb 2021.	Location- Muchiasai Block- Rajnagar 22° 34' 46.60" N 86° 5' 56.21" E	Opencast	1202607
45	Pot Stone	Shree Sai Minerals (0103108601)	MURUNMDIH PLOT-926	2207/2099 14.08.2017	0.790	21.03.2017	18.09.2027	Working	Captive	EC/DEIAA/SARAIKELA/2016-17/49, Order dt. 21 Mar 2017, Valid upto 18 Sep 2027.	Location- Murumdih Block- Rajnagar 22° 37' 28.95" N 85° 59' 33.02" E	Opencast	73910
46	Stone	Shaligram Infrastructures Pvt Ltd 0103486901	RAVANKOCHA PLOT-491P	22.07.2016	2.27	27.07.2015	21.07.2026	Working	Captive	EC/SEIAA/2015-16/714/2015/1152, Order dt. 27 July 2015,	Location- Rabankocha Block- Rajnagar 22° 35' 49.12" N 86° 1' 46.16" E	Opencast	491239
47	Stone	M/s K.K. Builders Pvt. Ltd.	TANGJORA PLOT-1042P KHATA-127	20.09.2015	4.586	20.09.15	19.09.20	Expired	Captive	EC/SEIAA/2014-15/625/2015/863, Order dt. 01 May 2015 Valid Upto 30 Apr 2025	Vill- Tangarjora Block- Rajnagar 22° 40' 28.50" N 86° 7' 21.32" E	Opencast	2857475
48	Stone	MATA ENTERPRISES 0103406203	CHHOTA TANGRANI PLOT-52,74,142	2732 05.12.2016	1.940	11.09.2017	10.09.2027	Working	captive	EC/DEIAA/16-17/48 21.03.17	N 22°41'19.40" to N 22°41'24.40" E 85°54'24.20" to E 85°54'32.20"	Opencast	1222223
49	STONE	Aarohi Impex & Trade Links	TENTOPSI PLOT-1112P	444/G 02.03.21	1.820	28.03.2023	31.08.2025	Working	captive	EC/SEIAA/242 DT-09.09.22	22° 43,25.25" N 86° 01' 40.28" E	Opencast	1262495
50	Quartzite	SANDEEP KARMAKAR	CHHOTATANGRANI PLOT-84P	959 18.08.17		07.11.2017	06.11.2027	Working	captive	EC/DEIAA/26 DT 07.04.18	22° 43,45.32" N 86° 06' 55.08" E	Opencast	52904
51	SOAPSTONE	GANGA ENGINEERING	BRAHMANDANGRI PLOT-2,34 KHATA-1,10	14 06.01.23	31.360	16.03.2005	15.03.2025	Working	captive	EC/SEIAA/366 DT-02.11.23	22° 43,8.204" N 86° 08' 35.837" E	Opencast	695506
52	STONE	M/S Bimaldeep Infrastructure Pvt.Ltd.	BANDUWA PLOT NO - 408 & 409,	LETTER NO-679/M, DT 21.03.2016	16.81	04.05.2016	03.05.2026	Non-Working	captive	EC/SEIAA/2015-16/1061/2015/1717 DT-26.10.2015	N 22°36'56.4" To N 22°36'51.7" E 85°55'27.5" To E 85°55'29.2"	Opencast	13548465
53	STONE	Triveni Engicons Pvt Ltd	UPERSILA, PLOT NO-01(P)	LETTER NO-2355/M, DT 07.10.2016	6.05	22.11.2016	21.11.2026	Non-Working	captive	EC/SEIAA/2015-16/1837/2015/2576, DT-31.12.2015	22°36'52.11" To 22°36'45.84" 85°55'20.52" To 85°55'29.54"	Opencast	1520036
54	STONE	RAJSWARI MINERALS	DOLADIH, PLOT NO - 280(P)	LETTER NO-2020/M, DT 05.08.2016	5.08	27.09.2016	26.09.2026	Non-Working	captive	EC/SEIAA/2015-16/1892/2015/2487 DT-31.12.2015	22°37'11.95" to 22°38'00.00" 85°55'40.36" to 85°55'28.50"	Opencast	3208629
55	STONE	BALAJI MINERALS	CHOTABANA, PLOT NO-587(p)	LETTER NO-2358/M, DT 13.10.2016	5.26	30.12.2016	29.12.2026	Non-Working	captive	EC/SEIAA/2015-16/1891/2015/2490 DT-31.12.2015	22°37'59.34" to 22°37'48.16" 85°55'40.36" to 85°55'29.19"	Opencast	2628004

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56	STONE	SRI VARUN MUNDHRA	MUDKUM, PLOT NO - 1588(P)	LETTER NO-2822/M, DT 19.09.2015	3.63	04.10.2015	03.10.2025	Non-Working	captive	EC/SEIAA/2014-15/493/2014/837 DT-30.04.2015	N 22°37'44.6" to N 22°37'50.01" E 85°53'59.1" to E 85°54'11.7"	Opencast	1223254
57	STONE	Triveni Engicons Pvt Ltd	MUDKUM, PLOT NO - 1588(P) & 630(P)	LETTER NO-715/M, DT 28.03.2016	3.46	04.05.2016	03.05.2026	Non-Working	captive	EC/SEIAA/2015-16/1823/2015/2578. DT-31.12.2015	22°37'49.21" to 22°37'56.89" 85°53'22.52" to 85°53'40.28"	Opencast	604430
58	STONE	M/s Premium Infra Logistics private Limited	PUHA, PLOT NO-253(P)	LETTER NO-592/M, DT 11.03.2016	5.27	30.04.2016	29.04.2026	Non-Working	captive	EC/SEIAA/2014-15/639/2015/897. DT-01.05.2015	22°37'45.71" to 22°37'53.41" 85°53'27.19" to 85°53'40.28"	Opencast	2899214
59	STONE	M/S LORDS INFRACON PVT.LTD.	BANA, PLOT NO- 115	LETTER NO-1074(A)/M, DT 22.09.2017	1.73	16.11.2017	15.11.2027	Non-Working	captive	EC/DEIAA/SARAIKELA/2017-2018/88, Order dt. 28.08.2017	N 22°42'26.04" To N 22°42'33.71" E 86°02'59.97" To E 86°03'04.78"	Opencast	525268.4
60	STONE	M.S LOYAL CONSTRUCTORS PVT.LTD.	BANA, PLOT NO- 84	LETTER NO-1076(C)/M, DT 22.09.2017	1.299	16.11.2017	15.11.2027	Non-Working	captive	EC/DEIAA/SARAIKELA/2017-2018/89, Order dt. 28.08.2017	N 22°42'30.09" To N 22°42'34.93" E 86°03'04.83" To E 86°03'09.68"	Opencast	375569.71
61	STONE	RAMLAL SINGH & SONS	BANA, PLOT NO- 720	LETTER NO-1079(D)/M, DT 22.09.2017	0.90	16.11.2018	15.11.2028	Non-Working	captive	EC/DEIAA/SARAIKELA/2017-2018/90/DEIAA Order dt. 28.08.2017	N 22°42'19.69" To N 22°42'25.51" E 86°03'09.98" To E 86°03'12.63"	Opencast	230649.93
62	Quartzite	M/s Chanduka Minerals and chemicals pvt ltd	KUORDA & CHERIAPAHARI	LETTER NO-592/M, RANCHI, DT 26.03.2012	14.92	26.03.2012	12.03.2032	Non-Working	captive	NA	NA	Opencast	
63	PYROXENIT	M/S JAGANNATH CEMENT WORKS PVT.LTD.	MAHARJGANJ	LETTER NO-1575/M, RANCHI, DT 06.12.2004	15.57	20.12.2004	18.12.2024	Non-Working	captive	NA	NA	Opencast	
64	PYROXENIT	M/S MATAGI ENTERPRISES PVT.LTD.	ROLA		9.94	21.06.2006	19.06.2026	Non-Working	captive	NA	NA	Opencast	
65	STONE	SHRI PADM LOCHAN MAHATO & SHRI SITARAM MAHATO	CHHOTA AMRA	LETTER NO-512/M, DT 27.07.2023	0.047	28.07.2023	27.07.2033	Non-Working	captive	EC/SEIAA/2022-23/2634/2022/254, DT 02.09.2022	23°00'48.5" to 23°00'52"4, 85°54'56.1" to 85°55'1.35"	Opencast	124480.8
66	STONE	Triveni Engicons Pvt Ltd	BALIYASAI, PLOT NO - 74 & 76	LETTER NO-2624/M, DT 19.11.2016	3.90	16.12.2016	15.12.2026	Working	captive	EC/DEIAA/SARAIKELA/2016-2017/29/DEIAA Order dt. 17.10.2016	22°38'09" to 22°38'26"86°02'36" to 86°02'47"	Opencast	224330.63
67	STONE	Kolhan Infrastructure and Mining Pvt. Ltd.	TANGJORA PLOT-820(p), 846(p), 817, 819, 844, 845 & 847,	LETTER NO-238/M, DT 20.04.2023	3.07	08.04.2023	07.03.2028	Working	captive	EC/SEIAA/2023-24/2918/2023/302 DT 06 Oct 2023 Valid Upto07 Apr 2028	22°39'58.15" to 22°40'08.27,N 86°07'16.99" to 86°07'25.01"	Opencast	98260
68	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	RUDIYA PLOT NO - 2381(p), 2382, 2383 & 2384 & KATIYA POLT NO - 05, 08 & 09	LETTER NO-862/M, DT 24.11.2022	1.50	05.12.2022	02.02.2032	Working	captive	ECSEIAA/2022-23/2635/2022/245 DT 02.09.2022	22°55'05.98" N to 22°55'10.06" N 86°01'53.95" E to 86°02'01.24" E	Opencast	335189.95
69	STONE	Hare Lal Construction Co. Pvt. Ltd. (0103370801)	UGMA , PLOT NO - 207, 208(p) & 219(p),	LETTER NO-2165/2057 DT 13.11.2017	2.15	19.09.2017	18.09.2027	Working	captive	EC/DEIAA/SARAIKELA/2016-17/50 DT 21.03.2017	N 22°43'30.20" to N 22°43'37.57" E 86°02'0.80" to E 86°02'11.47"	Opencast	40693.73
70	STONE	bhagwati stone crusher (0103370602)	MEDKI PLOT- 703P	LETTER NO-2401/2285 DT 16.11.2017	1.65	12.09.2017	11.09.2027	Working	captive	EC/SEIAA/2023-24/2792/2023/56 DT 02.05.2023	22°36'11.30" N 85°54'54.18" E 22°36'14.54" N 85°55'04.37" E	Opencast	84423.13

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71	STONE	SHRI ARUN KUMAR TUDU (0103244701)	CHOTALAKHA PLOTNO- 1745, 1746 & 1747,		1.22	25.07.2022	30.06.2025	Working	captive	EC/SEIAA/2021-22/2472/2021/09 DT 16.04.2022	22°54'56.69" to 22°55'01.50" 86°04'20.41" to 86°04'24.99"	Opencast	35000.34
												Total	86293844

ANNEXURE- VIII

PROBABLE GEOLOGICAL AREA BY MINES & GEOLOGY DEPARTMENT

Probable Geological Area by Mines & Geology Department

District- Saraikela-Kharsawan

MINOR MINERAL

Sl. No.	District	Name of Mineral Block	Village	Total Area (In Hectare)	OSM No.	Limiting Coordinates	Resource (in cubic meter)
1	Saraikela-Kharsawan	Nagatumung General Stone Block	Nagatumung	1.31	F45I2	Latitude-22°39'11.76"N to 22°39'16.62"N Longitude-86°8'21.30"E to 86°8'26.76"E	
2	Saraikela-Kharsawan	Jordiha General Stone Block	Jordiha	3.28	F45H14	Latitude-22°39'26.02"N to 22°39'35.39"N Longitude-85°54'22.52"E to 85°54'30.49"E	
3	Saraikela-Kharsawan	Muchiasai Stone Block	Muchiasai	4.71	F45I2	Latitude-22°34'42.33"N to 22°34'51.91"N Longitude-86° 5'43.33"E to 86° 5'57.61"E	
4	Saraikela-Kharsawan	Tangarjoda Stone Block	Tangarjoda	3.11	F45I2	Latitude-22°39'49.02"N to 22°39'55.97"N Longitude-86° 7'23.75"E to 86° 7'31.01"E	
5	Saraikela-Kharsawan	Janum Quartz/Quartzite Block	Janum	8.85	F45C4	Latitude-23°5'28.93"N to 23°5'39.66"N Longitude-86°1'18.60"E to 86°1'33.69"E	
6	Saraikela-Kharsawan	Patahesal Quartz/Quartzite Block	Patahesal	3.55	F45H14	Latitude-22°42'7.48"N to 22°42'16.11"N Longitude-85°52'44.17"E to 85°52'53.55"E	

7	Saraikela-Kharsawan	Heben Quartz Block	Heben	15.1	F45C4	Latitude-23°1'45.79"N to 23°2'5.01"N Longitude-86°4'21.41"E to 86°4'38.79"E	
8	Saraikela-Kharsawan	Bada Tengrani Stone Block	Bada Tengrani	2.52	F45H14	Latitude-22°41'5.23"N to 22°41'16.72"N Longitude-85°54'17.63"E to 85°54'22.08"E	
9	Saraikela-Kharsawan	Bada Kunabera Stone Block	Bada Kunabera	4.04	F45I2	Latitude-22°42'42.95"N to 22°42'48.50"N Longitude-86°05'36.34"E to 86°05'47.40"E	
10	Saraikela-Kharsawan	Chhotalupung General Stone Block	Chhotalupung	1.45	F45H14(Part)	22°40'14.30"N to 22°40'19.00"N and 85°56'27.40"E to 85°56'34.00"E	163163.521
11	Saraikela-Kharsawan	Nimdih Kelugote General Stone Block	Nimdih & Kelugot	1.30 Ha	F45H14(Part)	22°31'16.46"N to 22°31'25.42"N and 86°56'19.30"E to 85°56'24.56"E	245889.4104
12	Saraikela-Kharsawan	Balrampur General Stone Block-	Balrampur	0.47 Ha	F45I2(Part)	22°41'22.32"N to 22°41'25.67"N and 86°07'31.82"E to 86°07'35.01"E	39924.268
13	Saraikela-Kharsawan	Autodih-Rangamatia General Stone Block	Autodih,Rangamatia and Kasida	3.75 Ha	F45H14(Part)	22°34'9.90"N to 22°34'25.12"N 85°56'59.36"E to 85°57'14.60"E	534016.960
14	Saraikela-Kharsawan	Jhalak General Stone Block	Jhalak	3.26 Ha	F45H14(Part)	22°31'53.79"N to 22°32'04.71"N and 85°57'59.26"E to 85°58'06.77"E	485598.8726

15	Saraikela-Kharsawan	Tangarjoda General Stone Block	Tangarjoda	3.11 Ha	F45I2 (Part)	Latitude 22°39'49.02"N to 22°39'55.97"N and longitude 86°07'23.75"E to 86°07'31.01"E	110133.13
16	Saraikela-Kharsawan	Gangidih stone block	Gangidih	3.727 Ha	F45H14/ 73F/14 (part)	22°37'01.75"N to 22°37'22.88"N and 85°55'12.20"E to 85°55'35.33"E	1471766.75
17	Saraikela-Kharsawan	Ulidih stone block	Ulidih	2.98 Ha	F45H14/ 73F/14 (part	22°37'14.60"N to 22°37'32.20"N and 85°55'25.82"E to 85°55'34.99"E	206552.39
18	Saraikela-Kharsawan	Katanga stone block	Katanga	4.71 Ha	F45H14/ 73F/14 (part)	22°37'08.24"N to 22°37'14.42"N and 85°54'42.96"E to 85°54'55.19"E	1728834.44
19	Saraikela-Kharsawan	Muchiasai stone block	Muchiasai	3.5 Ha	F45I2/ 73J/2 (part)	22°34'47.50"N to 22°34'54.16"N and 86°05'45.65"E to 85°05'57.48"E	1068253.20
20	Saraikela-Kharsawan	Noagora stone block	Noagora	1.72 Ha	F45H14/ 73F/14 (part)	22°40'15.73"N to 22°40'22.93"N and 85°54'48.22"E to 85°54'54.09"E	104315.00
21	Saraikela-Kharsawan	Chhotalupung General Stone Block	Chhotalupung	1.45	F45H14(Part)	22°40'14.30"N to 22°40'19.00"N and 85°56'27.40"E to 85°56'34.00"E	163163.521

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ANNEXURE- IX
PLANTATION PHOTOGRAPHS

Number of tree on site	45
Name of Mining Dealer Holder (Crusher Unit)	M/s R.P. Enterprises
Location	Mauza – Lengdih Po-Siddih Chowka Plot No – 924(P) Area – 1.00 Acre Dist – Seraikella Kharsawan Jhakhand
Area for Plantation as per Plan	100
Number of Tree Proposed in Mining Plan	-

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Number of tree on site	36
Name of Minning Lease Holder	Shree Arun Kumar Tudu
Location	Chotalakha, Seraikela-kharsawan 832401
Area for plantation as per plan	100
Number of tree proposed in Mining plan	

Number of tree on site -100
Name of Mining Dealer Holder (Crusher Unit) M/S Amit Enterprises
Location Mauza- Near Reliance Petrol Pump M/s Jai Manorma Fuels, Halka No.6, Khata No.94 Khesra No.1268 Thana No.158, Chowka, Chandil, Parka, Seraikela Kharsawan, Jharkhand, 832404
Area for plantation as per plan 100
Number of trees Proposed in mining plan --

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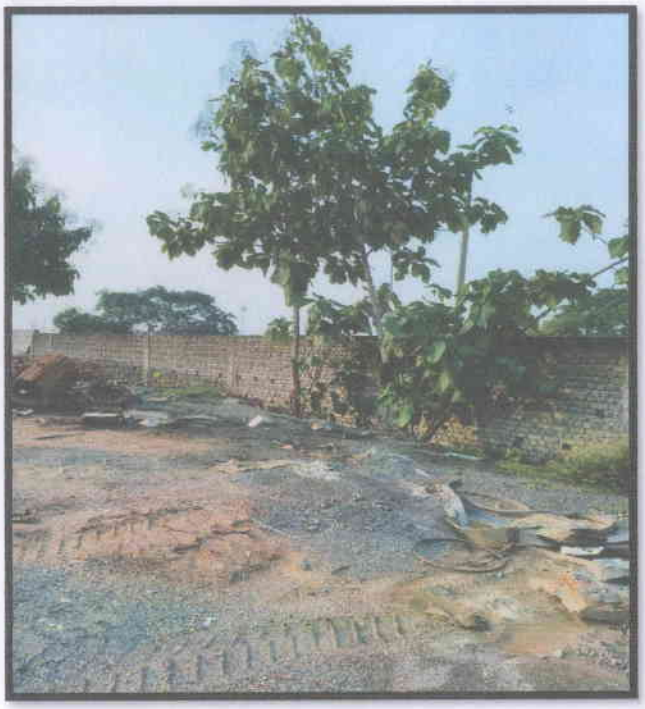
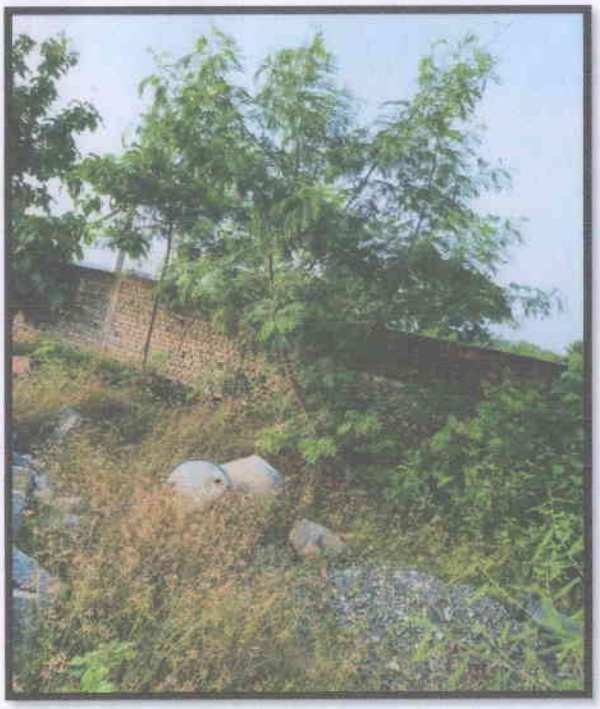
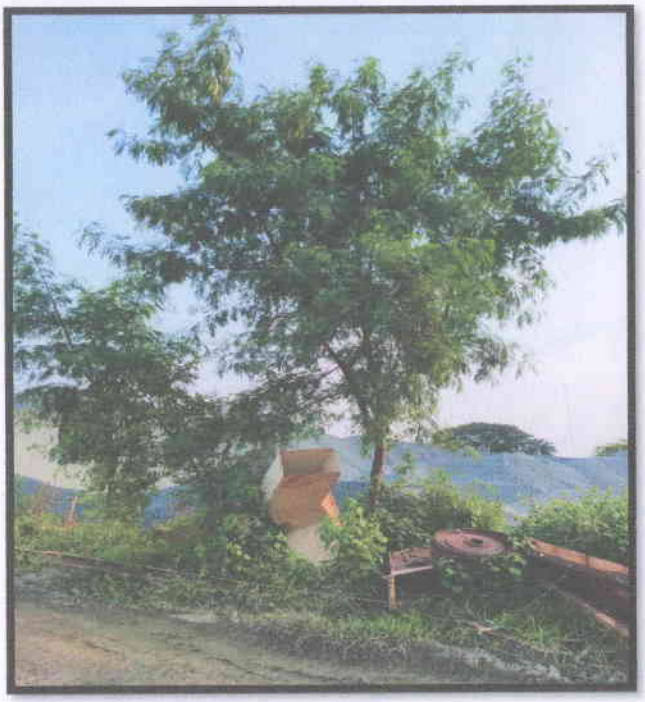
Jharkhand, Ranchi







Number Of tree On site	42
Name of Mining Lease Holder	M/s Bhagwati Stone Crusher
Location	PLOT NO. 703,MEDAKI, RAJNAGAR, Seraikela Kharsawan, Jharkhand, 831002
Area For Plantation as per Plan	100
Number Of Tree Proposed In Mining Plan	

Approved

Number of tree on site	65
Name of Mining Lease Holder	M/S Laxmi Enterprises
Location	Mauza–Barakanki Rajnagar, Seraikela- Kharsawan Pin- 831002
Area for plantation as per plan	100
Number of tree proposed in Mining plan	

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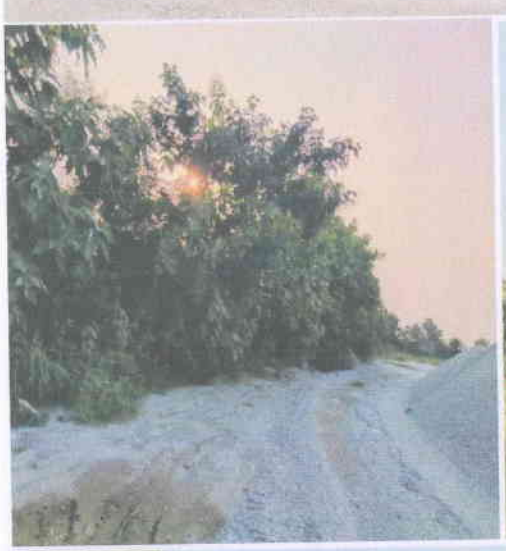

Numbers of Trees on Site :- **467 Nos.**
Name of Mining Dealer Holder(Crusher Unit) -
M/s LEADING CONSTRUCTION
Location - Plot No. 117,Khata No. 37,Village - Raidih,P.O - Sidhukopa,PS - Saraikela District - Saraikela Kharsawan,State - Jharkhand (5.34 Acres(2.16 ha).
Area of Plantation as per Plan - **467 Nos.**
Number of Trees Proposed in Mining Plan -

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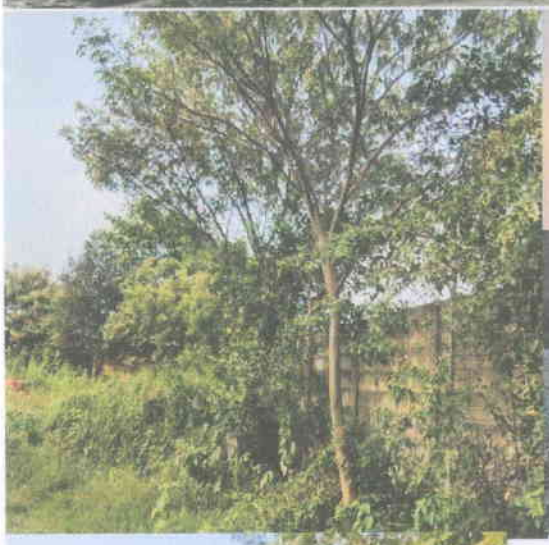

Numbers of Trees on Site :- **453 Nos.**
Name of Mining Dealer Holder(Crusher Unit) -
M/s LEADING CONSTRUCTION
Location - Plot No. 132,Khata No. 93,Village - Sosomuli,P.O - Kendmuri,PS - Govindpur(Rajnagar), District - Saraikela Kharsawan ,State - Jharkhand (5.20 Acres(2.10 ha).
Area of Plantation as per Plan - **453 Nos.**
Number of Trees Proposed in Mining Plan -

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Number of tree on site	200 Nos
Name of Mining Lease Holder	Pradeep Singh
Location	Chhota Kunabera
Area of Plantation as per plan	6.80 Acres or 2.753 Ha
Number of tree proposed in Mining plan	200 Nos

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Number of tree on site	40
Name of Mining Lease Holder	M/S Kamakhaya Mata Stone
Location	Mauza–Dirlong, Seraikela- Kharsawan - 832404
Area for plantation as per plan	100
Number of tree proposed in Mining plan	

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Number of tree on site	40
Name of Mining Lease Holder	M/S Kamakhaya Mata Stone
Location	Mauza–Bada Kunabera, Rajnagar, Kendumudi, Seraikela –Kharsawan - 831017
Area for plantation as per plan	100
Number of tree proposed in Mining plan	

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Number of tree on site	**54**
Name of Mining Dealer Holder (Crusher Unit)	M/S Shree Pradip Kumar Jaiswal
Location	Mauza- Ghoraling , Po- Ghoraling , Ps – Chandil Plot no – 2871 Area – 1 .00 acre Dist – Saraikella kharswan
Area for plantation as per plan	100
Number of trees Proposed in mining plan	--

Number of tree on site	120
Name of Mining Dealer Holder (Crusher unit)	M/s MANOJ KUMAR ROY
Location	Mauza – Ghoraling , Po- Ghoraling, Ps – Chandil Plot no – 116 (P) Area- 0.91 Acre Dist – Saraikella Kharswan - 832401
Area for Plantation as per Plan	100
Number of tree proposed in mining plan	

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ANNEXURE- X

GEO-HYDROLOGICAL SURVEY REPORT

GEO HYDROLOGICAL SYRVEY REPORT

OF

BALIASAI STONE DEPOSIT

Khata No. 72; Plot Nos. 76 & 74
Mouza – Baliasai, Thana – Rajnagar (Govindpur)
District – Saraikella - Kharsawan, State – Jharkhand

USING

Instrument model: SSR MP ATS
METHOD - Schlumberger Array

Project Proponent

M/s TRIVENI ENGICONS (P) LTD

Director- Sri Anand Dodrajka
Reg. Address – 3/6, H.S Tower, L.Road, Bistupur, Jamshedpur
District East Singhbhum, State - Jharkhand – 831001
Mob 9431301445

Survey by

Dr. Amarjeet Kumar Singh

Hydro Geologist
At - Lal Bangla, PO - KG Ashram, District - Dhanbad, State - Jharkhand - 826109
Registered QP by Department of Mines and Geology, Govt. of Jharkhand
(Approved Hydro geologist by MADA, Railway and D W & S Dept, Govt. of Jharkhand)
Mob: 9431508228
E- mail: amarjeet.dhanbad@gmail.com

2024

GEO HYDROLOGICAL SURVEY REPORT

Introduction : On the receipt of request from **Baliasai Stone Deposit** of M/s Triveni Engicons Pvt Ltd, represented by its Director Sri Anand Dodrajka Registered address At: 3/6, H.S Tower , L. Road, Bistupur, Jamshedpur in District East Singhbhum for conducting Geo hydrological testing report including depth of aquifers based on Jharkhand Gazette (Extra Ordinary),Published on 02 March 2017, Schedule IV (XII) Regarding Geo Hydrological Survey Report ; three Vertical Electrical Soundings (VES) have been carried out in the proposed Baliasai Stone Deposit site on Plot No 74 & 76, Khata No – 72 in Mouza Baliasai, Thana Rajnagar (Govindpur), District Saraikella-Kharsawan and state Jharkhand (Photo-1). The detailed Vertical Electrical Sounding (VES) locations (Table 1) & (Figure 1) and measured Apparent Resistivity Surveyed data in ohm m (Table 2) has been carried out on 04th March, 2024.

Geo Hydrologically, the area under investigation is characterized as hard & compact metamorphic rock type. The availability of ground water would depend on the presence and extent of the weathered overburden, the presence of joints and fractures underlying bedrocks. In general, these types of rocks are poor source of ground water. This is mainly due to its less permeability and porosity. On literature survey and based on field investigation it was observed that granitic gneissic stone and recent alluvium are common in this area. Therefore, on the request of applicant M/s Triveni Engicons Pvt Ltd, represented by its Director Sri Anand Dodrajka Registered address At: 3/6, H.S Tower , L. Road, Bistupur, Jamshedpur in District East Singhbhum, Jharkhand an attempt has been made to delineate the sub surface and underlying bedrocks strata conditions using resistivity techniques.

Literature Review: Geophysical methods, especially Geo Physical Electric Resistivity Survey techniques can give better solutions indirectly in locating ground water in unexplored hard rocky terrains. Despite some limitations, resistivity survey method is the most commonly used and feasible technique to explore ground water aquifers in recent years. Resistivity methods measures sub surface resistivity distribution from ground surface. This method is based on the electrical resistivity of the rock formations.

There are no fixed limits for resistivity of various rocks. Resistivity of rock formation vary over a wide range depending on the material, density, porosity pore size and shape, water contents and quality of water.(Table 3)

Dr. Amarjeet Kumar Singh
Qualified person

Four electrodes (2 currents and 2 potential electrodes) are in practice to get the resistitivity of the different strata beneath the earth crust. To get the thickness and depth of aquifer (water bearing rocks) below ground level, vertical electrical sounding (VES) has been carried out. These measurements are normally made by passing electric current in to the ground through two metallic electrodes and measuring the resulting voltage difference at two potential electrodes. From these measurements, the true resistivity of the sub surface can be estimated. (Figure - 2)

Table 1: Location of VES points with GPS Coordinates on Baliasai Stone Deposit in Saraikella-Kharsawan district.

Serial No	Vertical Electrical Sounding (VES)	Latitudes & Longitudes
1	VES-1	N22^{0}38'.12.9" & E86^{0}02'37.5"
2	VES- 2	N22^{0}38'.21.6" & E86^{0}02'42.6"
3	VES-3	N22^{0}38'26.9" & E86^{0}02'48.54"

Geological setup of the area: Geologically the area of study lie within metamorphic terrain, which underlain by a wide range of geological formations ranging in age from Archaean to Recent. The common rock formation in this area is Granite gneiss, Pegmatite's, Amphibolites and Quartzite etc. Topographically area under investigation is uneven and undulating in nature. The high grounds are being separated between low grounds. A very thin soil cover is observed.

Instrumentation & measurement techniques: Methodology includes detailed investigation carried out in field as well as laboratory for exploring, estimation and recommendation of suitable sites for stone explorations. Three Vertical Electrical Soundings (VES) in the proposed study area were carried out by using SSR-MP-ATS, instrument.

Schlumberger configuration was used with maximum electrode spacing between the center of the electrode configuration and outer most current electrode (AB/2) equal to

Dr. Amarjeet Kumar Singh
Qualified person

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60 meter. For interpretation of measured data computer based software were used in the laboratory. The 1D- Resistivity estimating computer programmed was used in this survey to determine the appropriate resistivity values in the laboratory.

Result & Interpretation: The perusal of Table No.-2 indicates that the results of measured apparent resistivity in the field. The apparent resistivity observed in this site is ranges from 58 - ohm m to 960– ohm m in VES-1, 64 - ohm m to 1012 – ohm m in VES-2 and 49 - ohm m to 2214 – ohm m in VES-3, respectively. The interpretation of result indicates that the measured apparent resistivity graphs (Figure 1) showing ascending nature of resistivity in all three VES points' means, a very thin soil cover followed by semi weathered rocks and hard rock at greater depths.

Further, the analysis of geo-electrical sounding data (Figure 2) indicates that there is no sub surface water bearing zones in this site and also an interpretation of results with standard resistivity of various rocks (Table-3) indicates that the top soil consisting of loose material has a thickness of approximately 1 m to 2 m depth, while consolidated hard rock is encountered below 3 m depth with massive thickness at 3 m to 60 m depth. Based on this survey the water bearing aquifers are not found at a depth above 60 m depth in this site. As per mining plan drawings the maximum depth of mining will be above 15 m depth in this mine site, hence there is no effect of mining on underground water table. The mining will be done above the mentioned depth based on mining plan. The proposed stone mine site is suitable for stone mining activity.

Table: 2 Measured Apparent Resistivity in ohm.m at Baliasai Stone Deposit, Saraikella-Kharsawan

Depth (m)	Apparent Resistivity in ohm. m		

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Qualified person

	VES-1	VES-2	VES-3
5	58	64	49
10	78	106	132
15	112	155	198
20	185	257	350
25	215	352	556
30	324	414	822
35	444	517	1120
40	526	645	1513
50	735	747	1734
60	960	1012	2214

Table: 3 Resistivity's of some common rocks. (Keller and Frischknecht, 1966, Daniels and Alberty, 1966)

Material	Resistivity in Ohm.m
Granite	5×10^3 to 10^6
Basalt	10^2 to 10^6
Slate	6×10^3 to 4×10^7
Quartzite	10^2 to 2×10^8
Sandstone	8 to 4×10^3
Shale	20 to 2×10^3
Clay	1 to 100
Alluvium	10 to 800
Ground water (Fresh)	10 to 100

Figure 1: Showing measured apparent resistivity vs depth in Baliasai Stone Deposit site, District - Saraikella-Kharsawan

Dr. Amarjeet Kumar Singh
Qualified person

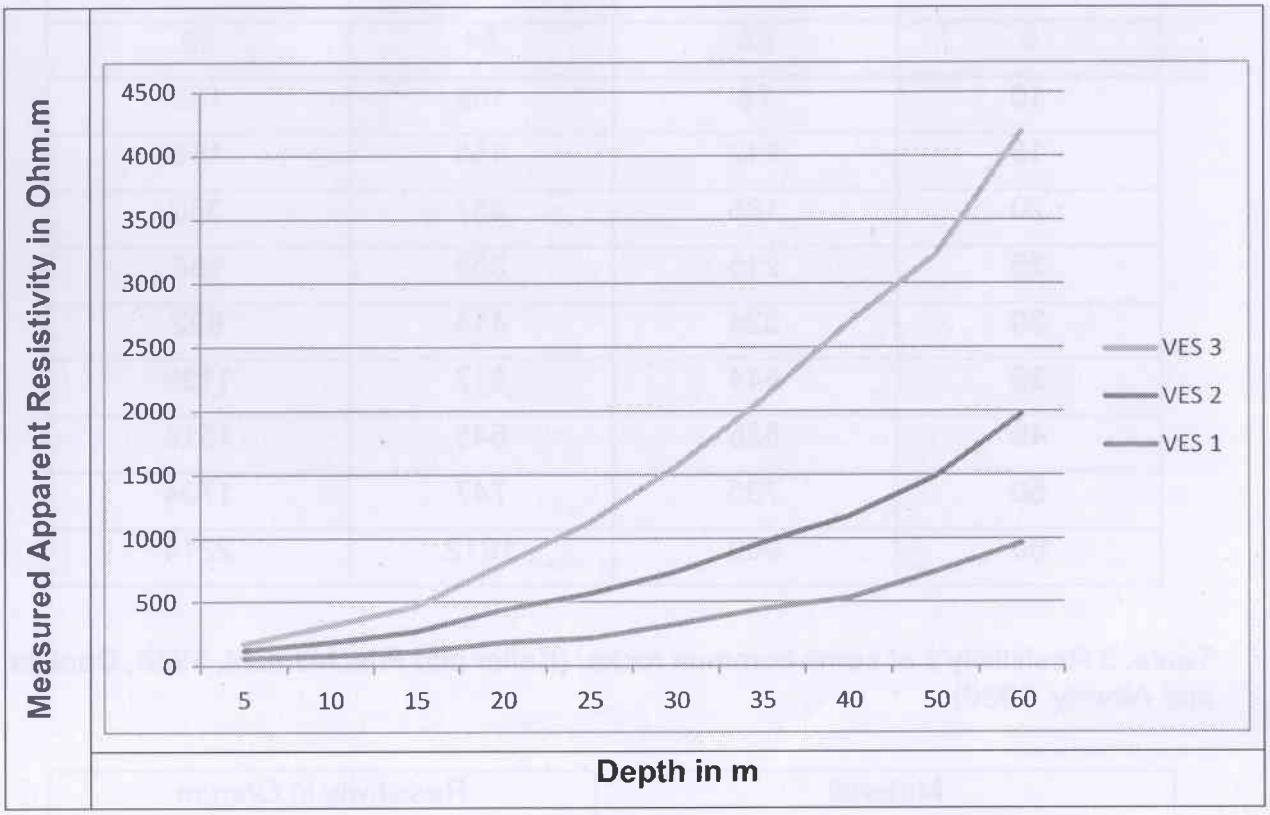


Figure 2: Showing Depth vs Strata Condition below the sub surface at Baliasai Stone Deposit site, District - Saraikella-Kharsawan

Dr. Amarjeet Kumar Singh
Qualified person

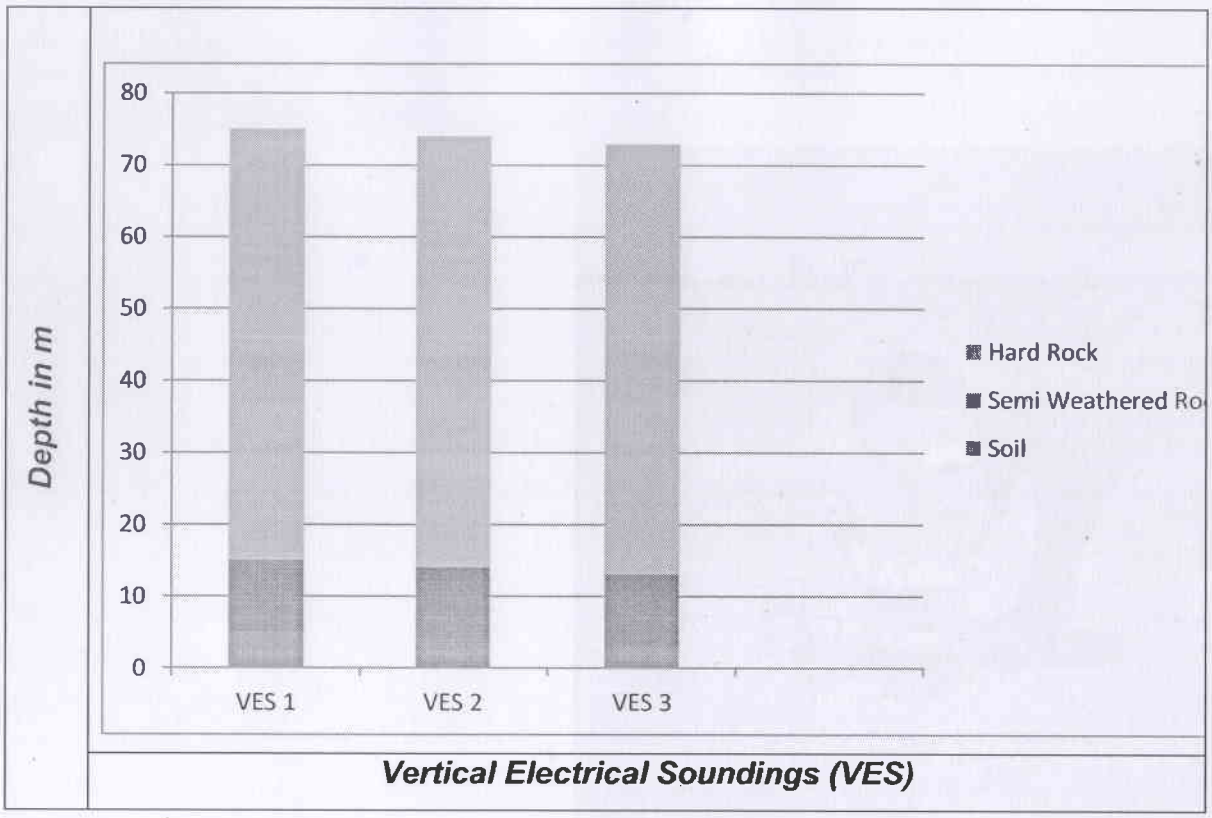
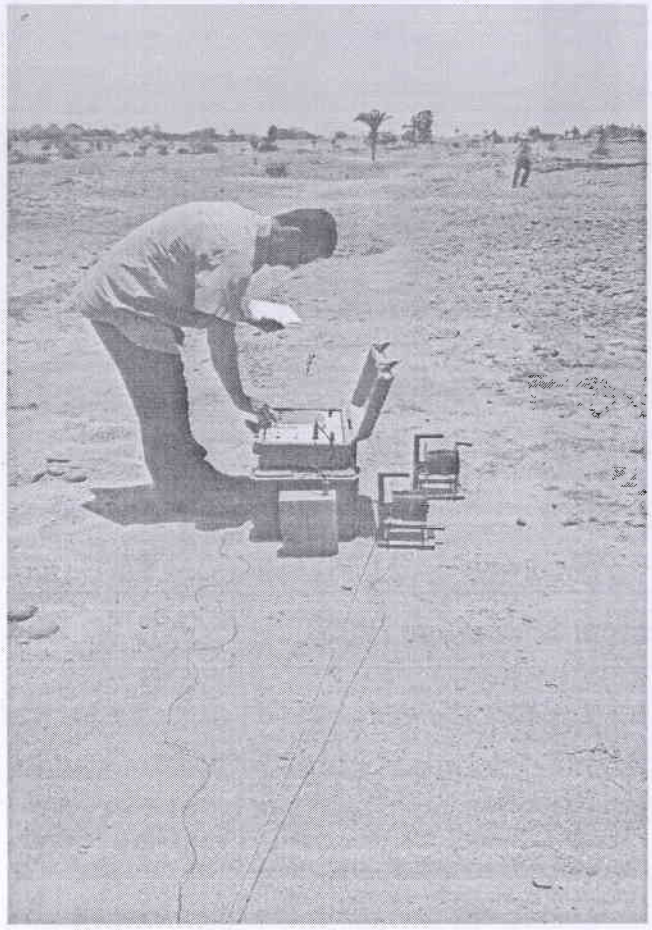


Photo 1: Showing Measurement of Apparent Resistivity in the Proposed Site

Dr. Amarjeet Kumar Singh
Qualified person



Recommendations: On the basis of available local geological information, topography of the area and the interpreted results from analysis of generated vertical electrical sounding data, the site is suitable for stone mining operation without effecting underground water of the area.

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Approved
Jharkhand, Ranchi

Dr. Amarjeet Kumar Singh
Qualified person

GEO HYDROLOGICAL SYRVEY REPORT

OF

RUDIYA STONE DEPOSIT

Khata No. 40, 61; Plot Nos. 1029, 1033
Mouza – Rudiya, Thana – Chandil
District – Saraikela - Kharsawan, State – Jharkhand

USING

Instrument model: SSR MP ATS
Method - Schlumberger Array

Project Proponent

Sri Yash Raj Mahato
S/o Rastaj Mahato
Address – Village & PO - Ghoranegi
District – Saraikela - Kharsawan, State – Jharkhand

Survey by

Dr. Amarjeet Kumar Singh
Consultant Hydro Geologist
At - Lal Bangla, PO - KG Ashram, District - Dhanbad, State - Jharkhand - 826109
Registered QP by Department of Mines and Geology, Govt. of Jharkhand
(Approved Hydro geologist by MADA, Railway and D W & S Dept, Govt. of Jharkhand)
Mob: 9431508228
E- mail: amarjeet.dhanbad@gmail.com

2024

Approved

GEO HYDROLOGICAL SURVEY REPORT

Introduction : On the receipt of request from **Rudiya Stone Deposit** of its owner Sri Yash Raj Mahato S/o Rasraj Mahato At: Village & PO - Ghoranegi in District Saraikella-Kharsawan and state Jharkhand for conducting Geo hydrological testing/report including depth of aquifers based on Jharkhand Gazette (Extra Ordinary),Published on 02 March 2017, Schedule IV (XII) Regarding Geo Hydrological Survey Report ; three Vertical Electrical Soundings (VES) have been carried out in the proposed Rudiya Stone Deposit site on Plot No 1029 & 1033 Khata No – 40 & 61 in Mouza Rudiya, Block Chandil, District - Saraikella-Kharsawan and state Jharkhand (Photo-1). The detailed Vertical Electrical Sounding (VES) locations (Table 1) & (Figure 1) and measured Apparent Resistivity Surveyed data in ohm m (Table 2) has been carried out on 12th June, 2024.

Geo Hydrologically, the area under investigation is characterized as hard & compact metamorphic rock type. The availability of ground water would depend on the presence and extent of the weathered overburden, the presence of joints and fractures underlying bedrocks. In general, these types of rocks are poor source of ground water. This is mainly due to its less permeability and porosity. On literature survey and based on field investigation it was observed that granitic gneissic stone and recent alluvium are common in this area. Therefore, on the request of applicant/ owner Sri Yash Raj Mahato S/o Rasraj Mahato At: Village & PO - Ghoranegi in District Saraikela-Kharsawan and state Jharkhand; an attempt has been made to delineate the sub surface and underlying bedrocks strata conditions using resistivity techniques.

Literature Review: Geophysical methods, especially Geo physical Electric Resistivity Survey techniques can give better solutions indirectly in locating ground water in unexplored hard rocky terrains. Despite some limitations, resistivity survey method is the most commonly used and feasible technique to explore ground water aquifers in recent years. Resistivity methods measures sub surface resistivity distribution from ground surface. This method is based on the electrical resistivity of the rock formations.

There are no fixed limits for resistivity of various rocks. Resistivity of rock formation vary over a wide range depending on the material, density, porosity pore size and shape, water contents and quality of water.(Table 3)

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Qualified person

Four electrodes (2 currents and 2 potential electrodes) are in practice to get the resistitivity of the different strata beneath the earth crust. To get the thickness and depth of aquifer (water bearing rocks) below ground level, vertical electrical sounding (VES) has been carried out. These measurements are normally made by passing electric current in to the ground through two metallic electrodes and measuring the resulting voltage difference at two potential electrodes. From these measurements, the true resistivity of the sub surface can be estimated. (Figure - 2)

Table 1: Location of VES points with GPS Coordinates on Rudiya Stone Deposit in Saraikella-Kharsawan district.

S. No	Vertical Electrical Sounding (VES)	Latitudes & Longitudes
1	VES-1	N $22^0$55'.10.9" & E$86^0$02'07.8"
2	VES-2	N $22^0$55'.13.12" & E$86^0$02'07.0"
3	VES-3	N $22^0$55'.14.3" & E$86^0$02'08.8"

Geological setup of the area: Geologically the area of study lie within metamorphic terrain, which underlain by a wide range of geological formations ranging in age from Archaean to Recent. The common rock formation in this area is Granite gneiss, Pegmatite's, Amphibolites and Quartzite etc. Topographically area under investigation is uneven and undulating in nature. The high grounds are being separated between low grounds. A very thick soil cover is observed.

Instrumentation & measurement techniques: Methodology includes detailed investigation carried out in field as well as laboratory for exploring, estimation and recommendation of suitable sites for stone explorations. Three Vertical Electrical Soundings (VES) in the proposed study area were carried out by using SSR-MP-ATS, instrument.

Schlumberger configuration was used with maximum electrode spacing between the center of the electrode configuration and outer most current electrode (AB/2) equal to

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60 meter. For interpretation of measured data computer based software were used in the laboratory. The 1D- Resistivity estimating computer programmed was used in this survey to determine the appropriate resistivity values in the laboratory.

Result & Interpretation: The perusal of Table No.-2 indicates that the results of measured apparent resistivity in the field. The apparent resistivity observed in this site is ranges from 110 - ohm m to 890 – ohm m in VES-1, 26 - ohm m to 362 – ohm m in VES-2 and 90 - ohm m to 412 – ohm m in VES-3, respectively. The interpretation of result indicates that the measured apparent resistivity graphs (Figure 1) showing ascending nature of resistivity in all three VES points' means, a very thick soil cover followed by semi weathered rocks and hard rock at greater depths.

Further, the analysis of geo-electrical sounding data (Figure 2) indicates that there is no sub surface water bearing zones in this site and also an interpretation of results with standard resistivity of various rocks (Table-3) indicates that the top soil consisting of loose material has a thickness of approximately 2 m to 6 m depth, while consolidated hard rock is encountered below 6 m depth with massive thickness at 6 m to 50 m depth. Based on this survey the water bearing aquifers are not found at a depth above 50 m depth in this site. As per mining plan drawings the maximum depth of mining will be above 36 m depth in this mine site, hence there is no effect of mining on underground water table. The mining will be done above the mentioned depth based on mining plan. The proposed stone mine site is suitable for stone mining activity.

Table: 2 Measured Apparent Resistivity in ohm.m at Rudiya Stone Deposit, Saraikella-Kharsawan

Dr. Amarjeet Kumar Singh
Qualified person

Depth (m)	Apparent Resistivity in ohm. m		
	VES-1	VES-2	VES-3
3	110	26	90
6	157	32	103
9	230	43	118
12	334	58	136
15	400	74	155
18	438	92	177
21	460	108	192
24	469	123	212
27	505	138	229
30	526	153	245
35	592	182	275
40	618	217	296
45	698	253	334
50	745	315	372
60	890	362	412

Table: 3 Resistivity's of some common rocks. (Keller and Frischknecht, 1966, Daniels and Alberty, 1966)

Material	Resistivity in Ohm.m
Granite	5×10^3 to 10^6
Basalt	10^2 to 10^6
Slate	6×10^3 to 4×10^7
Quartzite	10^2 to 2×10^8
Sandstone	8 to 4×10^3
Shale	20 to 2×10^3
Clay	1 to 100
Alluvium	10 to 800
Ground water (Fresh)	10 to 100

Figure 1: Showing measured apparent resistivity vs depth in Rudiya Stone Deposit site, District - Saraikella-Kharsawan

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Dr. Amarjeet Kumar Singh
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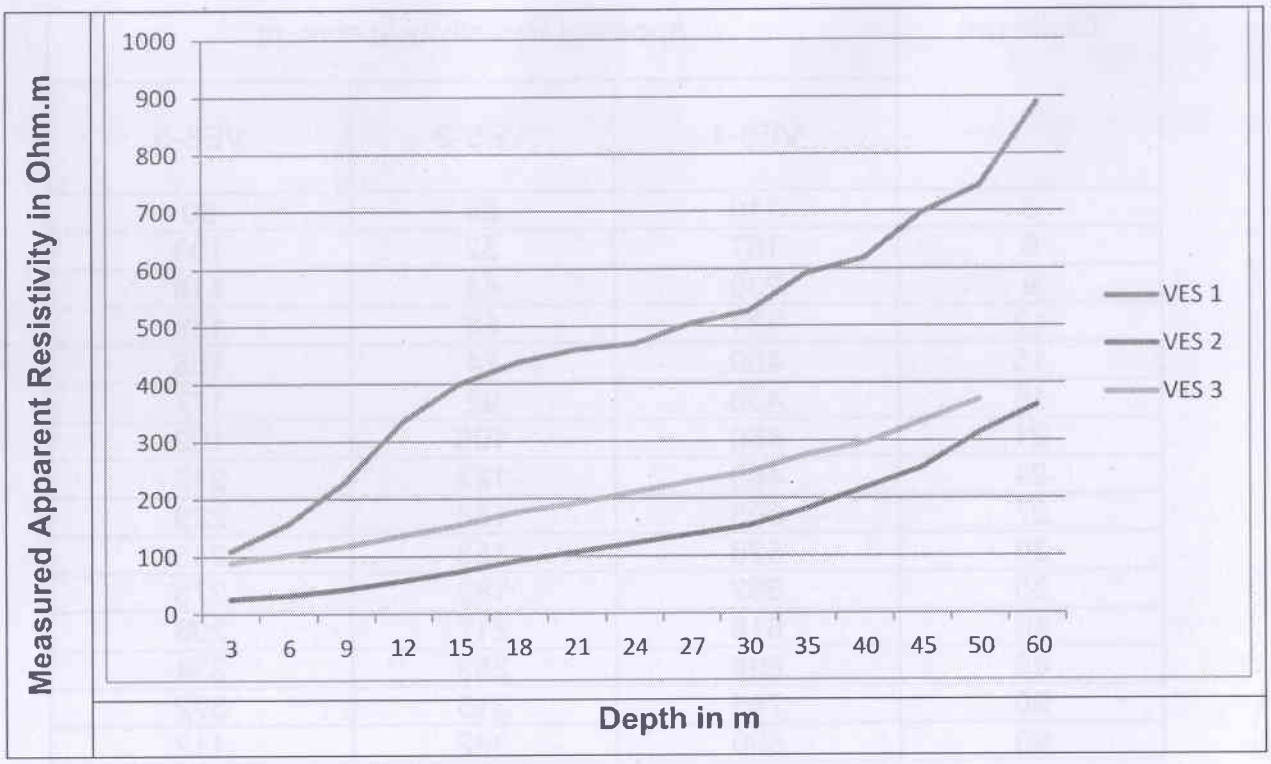

Figure 2: Showing Depth vs Strata Condition below the sub surface at Rudiya Stone Deposit site, District - Saraikella-Kharsawan

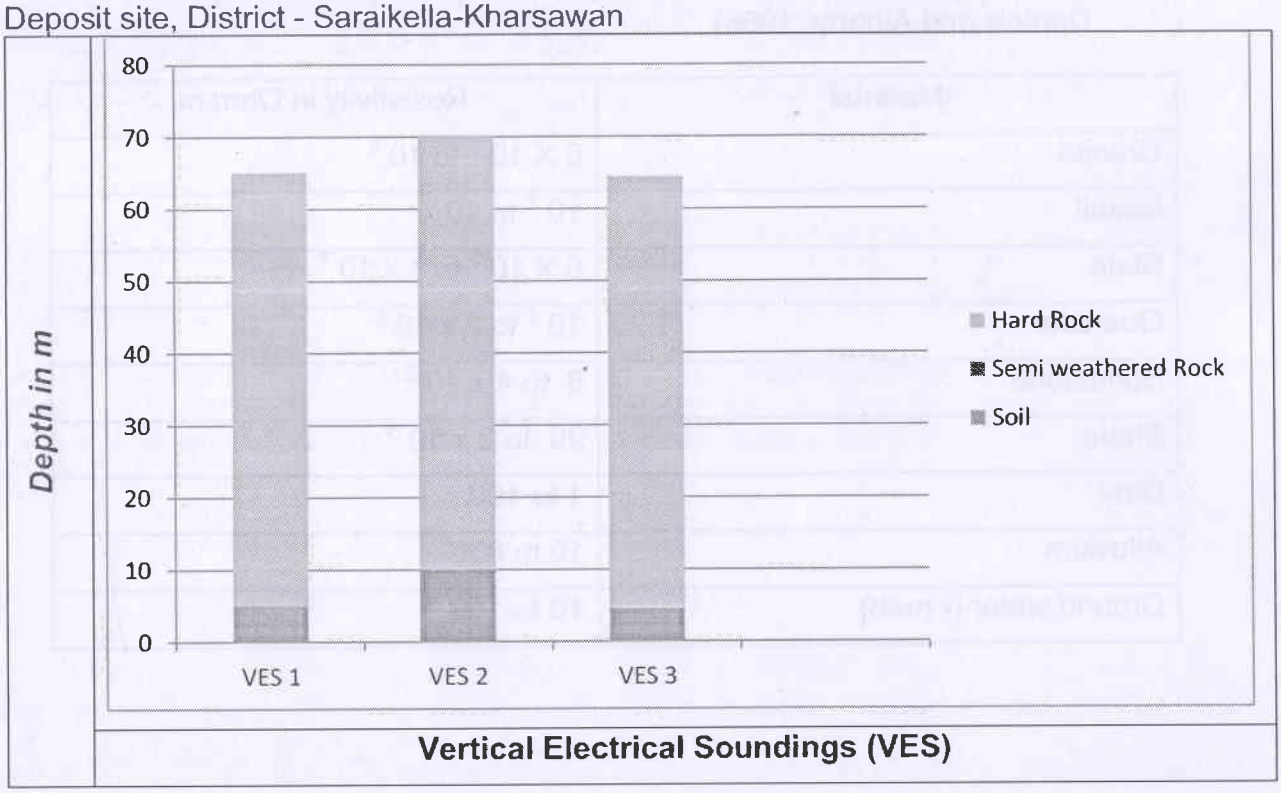

Photo 1: Showing Measurement of Apparent Resistivity in the Proposed Rudiya stone mine Site, District - Saraikela-Kharsawan

Dr. Amarjeet Kumar Singh
Qualified person

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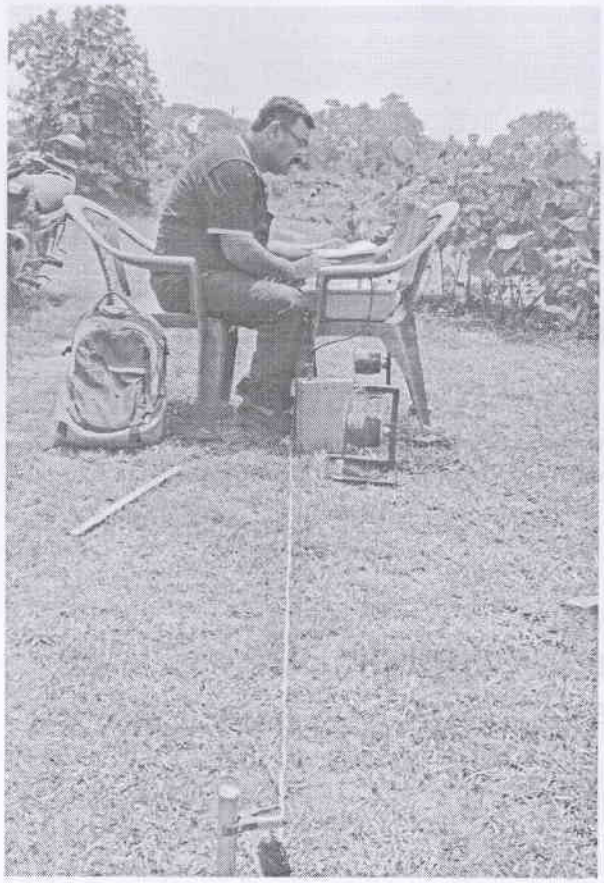

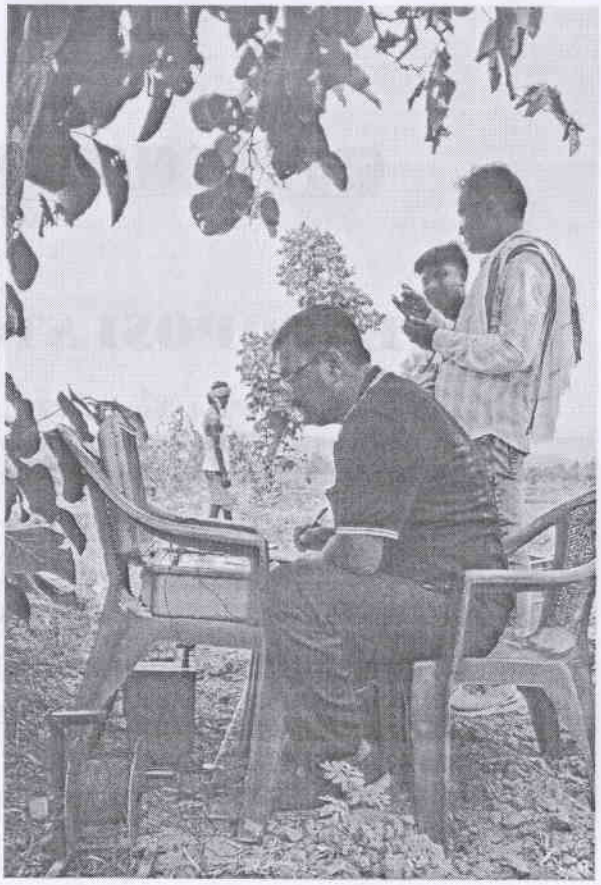

Recommendations: On the basis of available local geological information, topography of the area and the interpreted results from analysis of generated vertical electrical sounding data, the site is suitable for stone mining operation without effecting underground water table of the area.

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Approved
Jharkhand, Ranchi

Dr. Amarjeet Kumar Singh
Qualified person

GEO HYDROLOGICAL SYRVEY REPORT

OF

TENTOPOSI STONE DEPOSIT

Khata No. 242; Plot Nos. 1279, 1282, 1252(P), 1278 & 1285
Mouza – Tentoposi, Thana – Gamharia, No 241
District – Saraikella - Kharsawan, State – Jharkhand

USING

Instrument model: SSR MP ATS
Method - Schlumberger Array

Project Proponent

Aarohi Impex & Trade Links

Proprietor - Sri Abhishek Agarwal
Reg. Address – 59, Shiv Mandir Line, Sakchi Market
District - East Singhbhum, State - Jharkhand – 831001
Mob - 7004829921

Survey by

Dr. Amarjeet Kumar Singh
Consultant Hydro Geologist
At - Lal Bangla, PO - KG Ashram, District - Dhanbad, State - Jharkhand - 826109
Registered QP by Department of Mines and Geology, Govt. of Jharkhand
(Approved Hydro geologist by MADA, Railway and D W & S Dept, Govt. of Jharkhand)
Mob: 9431508228
E- mail: amarjeet.dhanbad@gmail.com

Approved

2024

GEO HYDROLOGICAL SURVEY REPORT

Introduction : On the receipt of request from **Tentoposi Stone Deposit** of Aarohi Impex & Trade Links, represented by its Proprietor Sri Abhishek Agarwak, At: 59, Shiv Mandir Line, Sakchi market PO Sakchi in District East Singhbhum for conducting Geo hydrological testing/report including depth of aquifers based on Jharkhand Gazette (Extra Ordinary),Published on 02 March 2017, Schedule IV (XII) Regarding Geo Hydrological Survey Report ; three Vertical Electrical Soundings (VES) have been carried out in the proposed Tentoposi Stone Deposit site on Plot No 1279, 1282, 1252(P), 1278, 1285, Khata No – 242 in Mouza Tentoposi, Block Gamariya, District Saraikella-Kharsawan and state Jharkhand (Photo-1). The detailed Vertical Electrical Sounding (VES) locations (Table 1) & (Figure 1) and measured Apparent Resistivity Surveyed data in ohm m (Table 2) has been carried out on 18th May, 2024.

Geo Hydrologically, the area under investigation is characterized as hard & compact metamorphic rock type. The availability of ground water would depend on the presence and extent of the weathered overburden, the presence of joints and fractures underlying bedrocks. In general, these types of rocks are poor source of ground water. This is mainly due to its less permeability and porosity. On literature survey and based on field investigation it was observed that granitic gneissic stone and recent alluvium are common in this area. Therefore, on the request of applicant Aarohi Impex & Trade Links, represented by its Proprietor Sri Abhishek Agarwal, At: 59, Shiv Mandir Line, Sakchi market PO Sakchi in District East Singhbhum Jharkhand; an attempt has been made to delineate the sub surface and underlying bedrocks strata conditions using resistivity techniques.

Literature Review: Geophysical methods, especially Geo physical Electric Resistivity Survey techniques can give better solutions indirectly in locating ground water in unexplored hard rocky terrains. Despite some limitations, resistivity survey method is the most commonly used and feasible technique to explore ground water aquifers in recent years. Resistivity methods measures sub surface resistivity distribution from ground surface. This method is based on the electrical resistivity of the rock formations.

There are no fixed limits for resistivity of various rocks. Resistivity of rock formation vary over a wide range depending on the material, density, porosity pore size and shape, water contents and quality of water.(Table 3)

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Qualified person

Four electrodes (2 currents and 2 potential electrodes) are in practice to get the resistitivity of the different strata beneath the earth crust. To get the thickness and depth of aquifer (water bearing rocks) below ground level, vertical electrical sounding (VES) has been carried out. These measurements are normally made by passing electric current in to the ground through two metallic electrodes and measuring the resulting voltage difference at two potential electrodes. From these measurements, the true resistivity of the sub surface can be estimated. (Figure - 2)

Table 1: Location of VES points with GPS Coordinates on Tentoposi Stone Deposit in Saraikella-Kharsawan district.

S. No	Vertical Electrical Sounding (VES)	Latitudes & Longitudes
1	VES-1	N22^{0}43'.22.2" & E86^{0}01'43.6"
2	VES- 2	N22^{0}43'.22.2" & E86^{0}01'46.3"
3	VES-3	N22^{0}43'.23.6" & E86^{0}01'47.1"

Geological setup of the area: Geologically the area of study lie within metamorphic terrain, which underlain by a wide range of geological formations ranging in age from Archaean to Recent. The common rock formation in this area is Granite gneiss, Pegmatite's, Amphibolites and Quartzite etc. Topographically area under investigation is uneven and undulating in nature. The high grounds are being separated between low grounds. A very thin soil cover is observed.

Instrumentation & measurement techniques: Methodology includes detailed investigation carried out in field as well as laboratory for exploring, estimation and recommendation of suitable sites for stone explorations. Three Vertical Electrical Soundings (VES) in the proposed study area were carried out by using SSR-MP-ATS, instrument.

Schlumberger configuration was used with maximum electrode spacing between the center of the electrode configuration and outer most current electrode (AB/2) equal to 60 meter. For interpretation of measured data computer based software were used in

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Dr. Amarjeet Kumar Singh
Qualified person

the laboratory. The 1D- Resistivity estimating computer programmed was used in this survey to determine the appropriate resistivity values in the laboratory.

Result & Interpretation: The perusal of Table No.-2 indicates that the results of measured apparent resistivity in the field. The apparent resistivity observed in this site is ranges from 14 - ohm m to 242– ohm m in VES-1, 29 - ohm m to 310 – ohm m in VES-2 and 35 - ohm m to 410 – ohm m in VES-3, respectively. The interpretation of result indicates that the measured apparent resistivity graphs (Figure 1) showing ascending nature of resistivity in all three VES points' means, a very thin soil cover followed by semi weathered rocks and hard rock at greater depths.

Further, the analysis of geo-electrical sounding data (Figure 2) indicates that there is no sub surface water bearing zones in this site and also an interpretation of results with standard resistivity of various rocks (Table-3) indicates that the top soil consisting of loose material has a thickness of approximately 1 m to 4 m depth, while consolidated hard rock is encountered below 4 m depth with massive thickness at 4 m to 60 m depth. Based on this survey the water bearing aquifers are not found at a depth above 60 m depth in this site. As per mining plan drawings the maximum depth of mining will be above 42 m depth in this mine site, hence there is no effect of mining on underground water table. The mining will be done above the mentioned depth based on mining plan. The proposed stone mine site is suitable for stone mining activity.

Table: 2 Measured Apparent Resistivity in ohm.m at Tentoposi Stone Deposit, Saraikella-Kharsawan

Depth (m)	Apparent Resistivity in ohm. m

Approved

Dr. Amarjeet Kumar Singh
Qualified person

	VES-1	VES-2	VES-3
3	8	29	35
6	14	50	58
9	22	70	69
12	30	86	85
15	39	100	115
18	50	115	145
21	61	132	180
24	73	145	230
27	84	169	256
30	97	185	298
35	116	210	320
40	134	235	336
50	189	258	372
60	242	310	410

Table: 3 Resistivity's of some common rocks. (Keller and Frischknecht, 1966, Daniels and Alberty, 1966)

Material	Resistivity in Ohm.m
Granite	5×10^3 to 10^6
Basalt	10^2 to 10^6
Slate	6×10^3 to 4×10^7
Quartzite	10^2 to 2×10^8
Sandstone	8 to 4×10^3
Shale	20 to 2×10^3
Clay	1 to 100
Alluvium	10 to 800
Ground water (Fresh)	10 to 100

Figure 1: Showing measured apparent resistivity vs depth in Tentoposi Stone Deposit site, District - Saraikella-Kharsawan

Approved

Dr. Amarjeet Kumar Singh
Qualified person

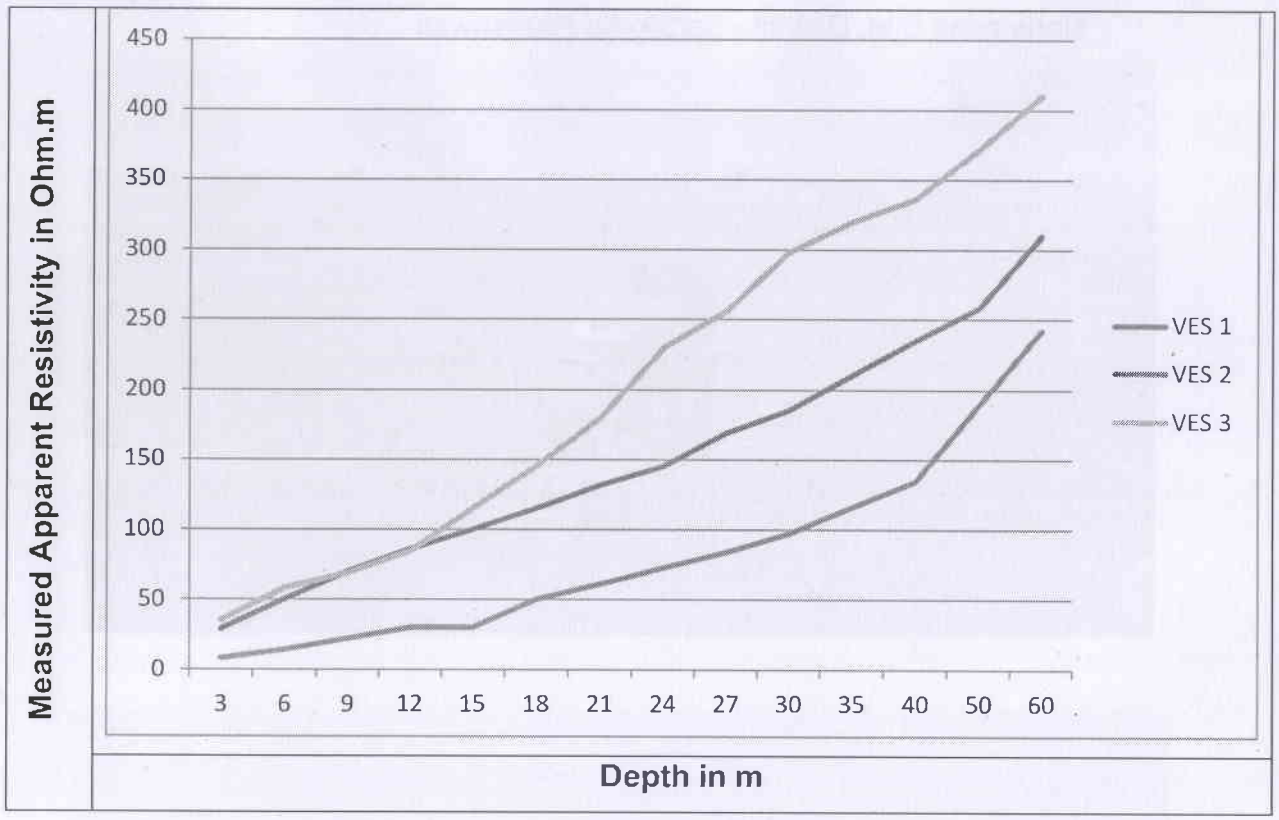


Figure 2: Showing Depth vs Strata Condition below the sub surface at Tentoposi Stone Deposit site, District - Saraikella-Kharsawan

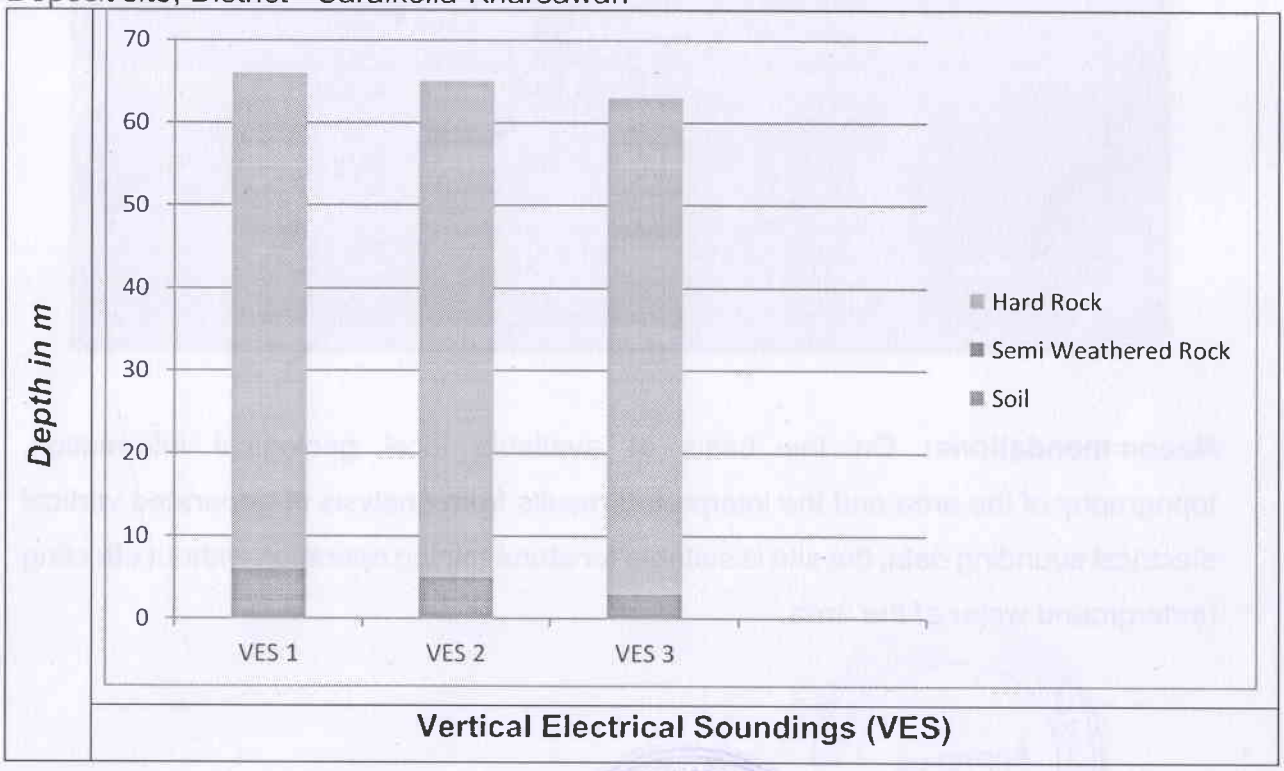
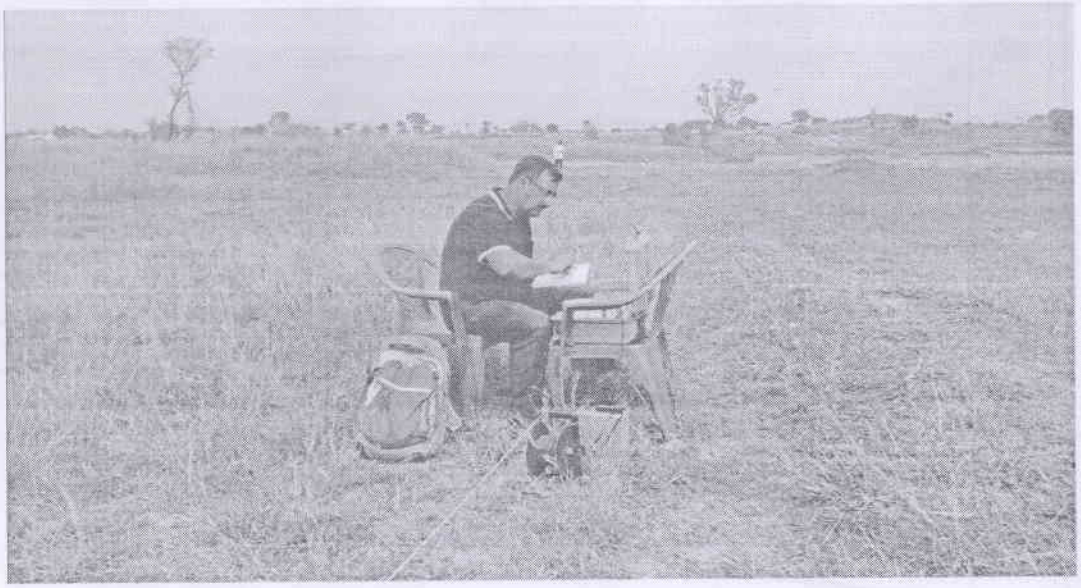


Photo 1: Showing Measurement of Apparent Resistivity in the Proposed Tentoposi

Approved

Dr. Amarjeet Kumar Singh
Qualified person

stone mine Site, District - Saraikella-Kharsawan



Recommendations: On the basis of available local geological information, topography of the area and the interpreted results from analysis of generated vertical electrical sounding data, the site is suitable for stone mining operation without effecting underground water of the area.

State Level Environment Impact Assessment Authority * Jharkhand, Ranchi
Approved

Dr. Amarjeet Kumar Singh
Qualified person

Approved
State Level Environment Impact Assessment Authority
Jharkhand, Ranchi

Dr. Amarjeet Kumar Singh
Qualified person

GEO HYDROLOGICAL SYRVEY REPORT

OF

ULIDIHI STONE DEPOSIT

Khata No. 80; Plot Nos. 20, 21, 25 & 26
Mouza – Ulidihi, Thana – Saraikela,
District – Saraikella - Kharsawan, State – Jharkhand

USING

Instrument model: SSR MP ATS

Method - Schlumberger Array

Project Proponent

M/s SAI RESOURSES PVT LTD

Director - Sri Tarun Kanti Ghosh
Address – Village – Dugdha, PS - Gamharia
District – Saraikella - Kharsawan, State – Jharkhand

Survey by

Dr. Amarjeet Kumar Singh

Consultant Hydro Geologist
At - Lal Bangla, PO - KG Ashram, District - Dhanbad, State - Jharkhand - 826109
Registered QP by Department of Mines and Geology, Govt. of Jharkhand
(Approved Hydro geologist by MADA, Railway and D W & S Dept, Govt. of Jharkhand)
Mob: 9431508228
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2024

Approved

DR. AMARJEET KUMAR SINGH HYDROGEOLOGY

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GEO HYDROLOGICAL SURVEY REPORT

Introduction : On the receipt of request from **Ulidihi Stone Deposit** of M/s Sai Resources Pvt Ltd represented by its Director Sri Tarun Kanti Ghosh S/o Tapan Kumar Ghosh, At: Village – Dugdha, PS - Gamhria in District Saraikella-Kharsawan and state Jharkhand for conducting Geo hydrological testing/report including depth of aquifers based on Jharkhand Gazette (Extra Ordinary),Published on 02 March 2017, Schedule IV (XII) Regarding Geo Hydrological Survey Report ; three Vertical Electrical Soundings (VES) have been carried out in the proposed Ulidihi Stone Deposit site on Plot No 20, 21, 25 & 26 Khata No – 80 in Mouza Ulidihi, Block Rajnagar, District - Saraikella-Kharsawan and state Jharkhand (Photo-1). The detailed Vertical Electrical Sounding (VES) locations (Table 1) & (Figure 1) and measured Apparent Resistivity Surveyed data in ohm m (Table 2) has been carried out on 23th May, 2024.

Geo Hydrologically, the area under investigation is characterized as hard & compact metamorphic rock type. The availability of ground water would depend on the presence and extent of the weathered overburden, the presence of joints and fractures underlying bedrocks. In general, these types of rocks are poor source of ground water. This is mainly due to its less permeability and porosity. On literature survey and based on field investigation it was observed that granitic gneissic stone and recent alluvium are common in this area. Therefore, on the request of applicant M/s Sai Resources Pvt Ltd represented by its Director Sri Tarun Kanti Ghosh S/o Tapan Kumar Ghosh, At: Village – Dugdha, PS - Gamhria in District Saraikella-Kharsawan and state Jharkhand; an attempt has been made to delineate the sub surface and underlying bedrocks strata conditions using resistivity techniques.

Literature Review: Geophysical methods, especially Geo physical Electric Resistivity Survey techniques can give better solutions indirectly in locating ground water in unexplored hard rocky terrains. Despite some limitations, resistivity survey method is the most commonly used and feasible technique to explore ground water aquifers in recent years. Resistivity methods measures sub surface resistivity distribution from ground surface. This method is based on the electrical resistivity of the rock formations.

Dr. Amarjeet Kumar Singh

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There are no fixed limits for resistivity of various rocks. Resistivity of rock formation vary over a wide range depending on the material, density, porosity pore size and shape, water contents and quality of water.(Table 3)

Four electrodes (2 currents and 2 potential electrodes) are in practice to get the resistitivity of the different strata beneath the earth crust. To get the thickness and depth of aquifer (water bearing rocks) below ground level, vertical electrical sounding (VES) has been carried out. These measurements are normally made by passing electric current in to the ground through two metallic electrodes and measuring the resulting voltage difference at two potential electrodes. From these measurements, the true resistivity of the sub surface can be estimated. (Figure - 2)

Table 1: Location of VES points with GPS Coordinates on Ulidihi Stone Deposit in Saraikella-Kharsawan district.

S. No	Vertical Electrical Sounding (VES)	Latitudes & Longitudes
1	VES-1	N22^{0}37'.16.5" & E85^{0}55'29.3"
2	VES-2	N22^{0}37'.16.5" & E85^{0}55'31.9"
3	VES-3	N22^{0}37'.16.6" & E85^{0}55'34.1"

Geological setup of the area: Geologically the area of study lie within metamorphic terrain, which underlain by a wide range of geological formations ranging in age from Archaean to Recent. The common rock formation in this area is Granite gneiss, Pegmatite's, Amphibolites and Quartzite etc. Topographically area under investigation is uneven and undulating in nature. The high grounds are being separated between low grounds. A very thin soil cover is observed.

Instrumentation & measurement techniques: Methodology includes detailed investigation carried out in field as well as laboratory for exploring, estimation and recommendation of suitable sites for stone explorations. Three Vertical Electrical Soundings (VES) in the proposed study area were carried out by using SSR-MP-ATS, instrument.

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Schlumberger configuration was used with maximum electrode spacing between the center of the electrode configuration and outer most current electrode (AB/2) equal to 60 meter. For interpretation of measured data computer based software were used in the laboratory. The 1D- Resistivity estimating computer programmed was used in this survey to determine the appropriate resistivity values in the laboratory.

Result & Interpretation: The perusal of Table No.-2 indicates that the results of measured apparent resistivity in the field. The apparent resistivity observed in this site is ranges from 22 - ohm m to 385 – ohm m in VES-1, 76 - ohm m to 459 – ohm m in VES-2 and 28 - ohm m to 312 – ohm m in VES-3, respectively. The interpretation of result indicates that the measured apparent resistivity graphs (Figure 1) showing ascending nature of resistivity in all three VES points' means, a very thin soil cover followed by semi weathered rocks and hard rock at greater depths.

Further, the analysis of geo-electrical sounding data (Figure 2) indicates that there is no sub surface water bearing zones in this site and also an interpretation of results with standard resistivity of various rocks (Table-3) indicates that the top soil consisting of loose material has a thickness of approximately 2 m to 6 m depth, while consolidated hard rock is encountered below 6 m depth with massive thickness at 6 m to 50 m depth. Based on this survey the water bearing aquifers are not found at a depth above 50 m depth in this site. As per mining plan drawings the maximum depth of mining will be above 36 m depth in this mine site, hence there is no effect of mining on underground water table. The mining will be done above the mentioned depth based on mining plan. The proposed stone mine site is suitable for stone mining activity.

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Table: 2 Measured Apparent Resistivity in ohm.m at Ulidihi Stone Deposit, Saraikella-Kharsawan

Depth (m)	Apparent Resistivity in ohm. m		
	VES-1	VES-2	VES-3
3	22	76	28
6	43	79	36
9	67	83	45
12	88	93	60
15	115	112	68
18	139	135	82
21	147	161	97
24	161	187	114
27	185	210	130
30	198	235	145
35	221	276	173
40	247	312	198
45	279	355	223
50	306	412	249
60	385	459	312

Table: 3 Resistivity's of some common rocks. (Keller and Frischknecht, 1966, Daniels and Alberty, 1966)

Material	Resistivity in Ohm.m
Granite	5×10^3 to 10^6
Basalt	10^2 to 10^6
Slate	6×10^3 to 4×10^7
Quartzite	10^2 to 2×10^8
Sandstone	8 to 4×10^3
Shale	20 to 2×10^3
Clay	1 to 100
Alluvium	10 to 800
Ground water (Fresh)	10 to 100

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Figure 1: Showing measured apparent resistivity vs depth in Ulidihi Stone Deposit site, District - Saraikella-Kharsawan

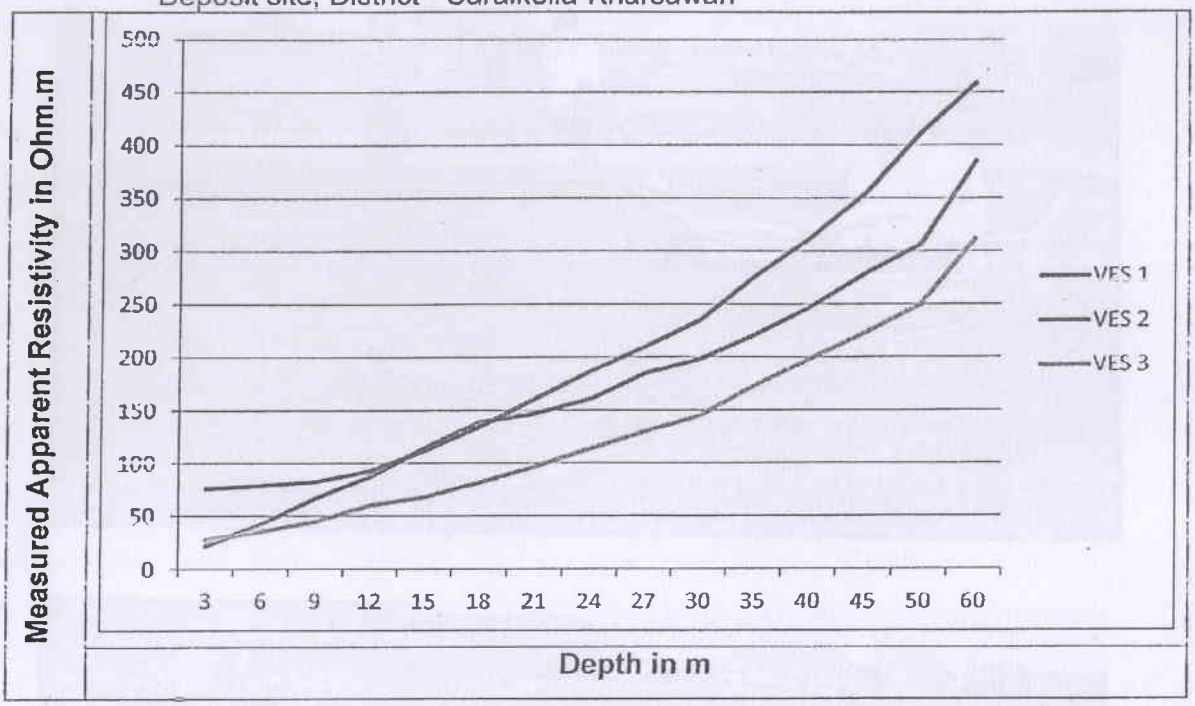

Figure 2: Showing Depth vs Strata Condition below the sub surface at Ulidihi Stone Deposit site, District - Saraikella-Kharsawan

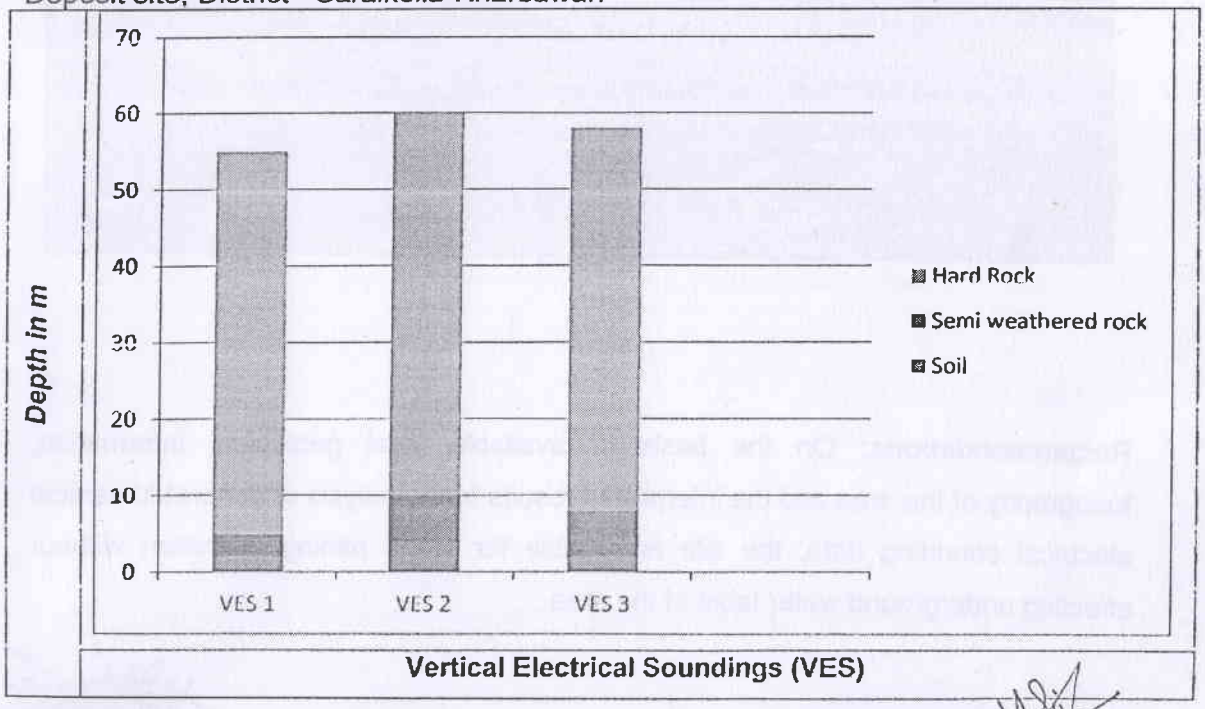

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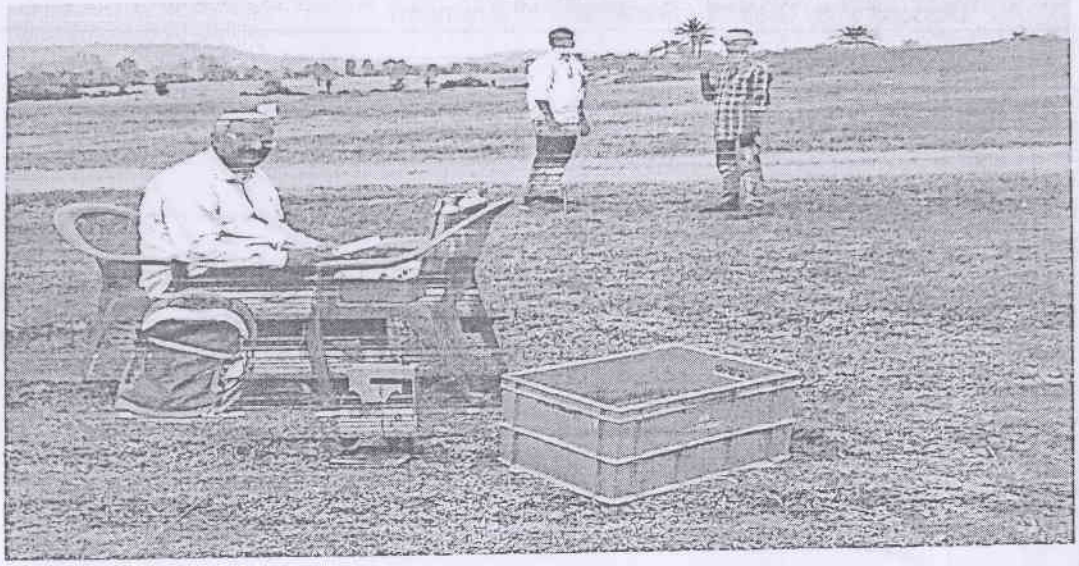
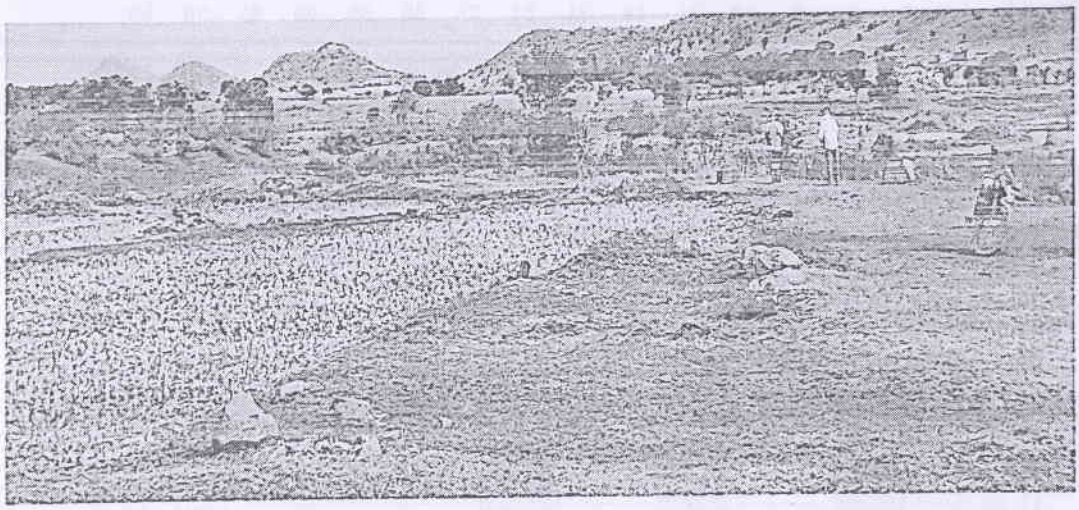
Photo 1: Showing Measurement of Apparent Resistivity in the Proposed Ulidihi stone mine Site, District - Saraikella-Kharsawan





Recommendations: On the basis of available local geological information, topography of the area and the interpreted results from analysis of generated vertical electrical sounding data, the site is suitable for stone mining operation without effecting underground water table of the area.

Dr. Amarjeet Kumar Singh
Qualified Person
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Annexure-XI

Letter from Civil Surgeon, Hazaribagh for Silicosis & Tuberculosis

कार्यालय :– राष्ट्राय यक्ष्मा उन्मूलन कार्यक्रम
सरायकेला – खरसावाँ
E-Mail – DTOJHSKK@rntcp.org

विगत पाँच वर्षो (2019 से 2023) की अवधि में जिला अन्तर्गत Occupational Health (Silicosis and Tuberculosis) से संबंधित रोगियों की तथ्यों/विवरणी –

क्रमांक	वर्ष	कारखाना का नाम	जाँच की गई मजदुरों की संख्या	Clinical Finding	Status of TB	X-ray Finding	PFT Finding	Status of Silicosis	Remarks
1	2019	मेसर्स खेतान विनियोग, प्रा० लि०, फेज 1 आदित्यपुर इन्डस्ट्रीयल एरिया	18	NAD	Nil	Normal	Normal	Nil	
2	2019	मेसर्स गजानन मिनरल्स प्रा० लि०, बी०-29, फेज-1 आदित्यपुर इन्डस्ट्रीयल एरिया	40	NAD	Nil	Normal	Normal	Nil	
3	2019	मेसर्स डी० एस० इण्डस्ट्रीज, ग्राम+पो० कोलाबीरा	13	NAD	Nil	Normal	Normal	Nil	
4	2019	मेसर्स गजानन ओर्स प्रा० लि०, बी०-29, फेज-1 आदित्यपुर इन्डस्ट्रीयल एरिया	21	NAD	Nil	Normal	Normal	Nil	
5	2019	मेसर्स श्री हनुमान माईनिंग प्रोडक्टस, प्रा० लि०, फेज-4 आदित्यपुर इन्डस्ट्रीयल एरिया	7	NAD	Nil	Normal	Normal	Nil	
6	2019	मेसर्स चन्दुका मिनरल्स एवं केमिकल्स, प्रा० लि०, फेज-4 आदित्यपुर इन्डस्ट्रीयल एरिया	32	NAD	Nil	Normal	Normal	Nil	
7	2020	Nil	Nil	Nil	Nil	Nil	Nil	Nil	
8	2021	Nil	Nil	Nil	Nil	Nil	Nil	Nil	
9	2022	Nil	Nil	Nil	Nil	Nil	Nil	Nil	
10	2023	Kross Pvt. Ltd Adityapur, Unit-3	09	NAD	Nil	--	--	--	
11	2023	Sudes Pvt. Ltd Adityapur	10	NAD	Nil	--	--	--	
12	2023	Prabhat Pvt. Ltd Adityapur	5	NAD	Nil	--	--	--	
13	2023	Reflexallen Pvt. Ltd Adityapur	6	NAD	Nil	--	--	--	
14	2023	Metal Work Adityapur	4	NAD	Nil	--	--	--	
15	2023	R.K.F.L Plant 3,4 Adityapur	13	NAD	Nil	--	--	--	
16	2023	Apex Auto Pvt. Ltd Adityapur	5	NAD	Nil	--	--	--	
17	2023	R.S.B Phase – I, II Adityapur	13	NAD	Nil	--	--	--	
18	2023	R.S.B Phase – III Adityapur	10	NAD	Nil	--	--	--	

28.09.2024

जिला यक्ष्मा पदाधिकारी
राष्ट्रीय यक्ष्मा उन्मूलन कार्यक्रम
सरायकेला – खरसावाँ।

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Annexure-XII

DALMA WLS_ Notification

MINISTRY OF ENVIRONMENT AND FORESTS

NOTIFICATION

New Delhi, the 29th March, 2012

S.O. 680(E).—Whereas, the Dalma Wildlife Sanctuary, Jamshedpur lies between Latitudes 22° 46' 30" and 22° 57' N and Longitudes 86° 3' 15" and 86° 26' 30" E in the East Singhbhum and Sariakela-Kharsawan districts of Jharkhand and extends over an area of 193.5077 square kilometers;

AND WHEREAS, the Asian Elephant is the species of vital importance in Dalma Wildlife Sanctuary, besides, some of the most endangered species like Ratel, Wild Dog, Mouse Deer, Indian Giant Squirrel, Python, Pangolin, Serpent Eagle, etc., are also found in this Sanctuary;

AND WHEREAS, the forests of this Sanctuary intercept rainfall and help recharge ground water aquifer and protect rivers and streams against siltation by minimizing soil erosion and the Sanctuary has a well knit network of 159 streams spreading throughout the Sanctuary, out of which 82 are perennial or semi perennial and the rest 77 streams are of seasonal nature. Subarnarekha River, Subarnarekha Canal and Dimna Lake are fed by these streams;

AND WHEREAS, it is necessary to conserve and protect the area around the protected area of Dalma Wildlife Sanctuary as Eco-sensitive Zone from ecological and environmental point of view;

AND WHEREAS, a draft notification under sub-section (1) read with clause (v) and clause (xiv) of sub-section (2) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986) was published in the Gazette of India, Extraordinary, vide notification of the Government of India in the Ministry of Environment and Forests number S.O. 691(E), dated the 5th April, 2011, as required under sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, inviting objections and suggestions from all persons likely to be affected thereby within a period of sixty days from the date on which copies of the Gazette containing the said notification were made available to the public;

AND WHEREAS, copies of the Gazette containing the said notification were made available to the public on the 5th April, 2011;

AND WHEREAS, all objections and suggestions received in response to the draft notification have been duly considered by the Central Government;

NOW, THEREFORE, in exercise of the powers conferred by sub-section (1) read with clause (v) and clause (xiv) of sub – section (2) of section 3 of the Environment

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(Protection) Act, 1986 (29 of 1986) and sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby notifies the area up to five kilometers from the boundary of the protected area of the Dalma Wildlife Sanctuary enclosed within the boundary described below in the State of Jharkhand as the Eco-sensitive Zone (herein after called as the Eco-sensitive Zone).

1. Boundaries of Dalma Wildlife Sanctuary Eco-sensitive Zone. – (1) Dalma Wildlife Sanctuary is bounded by the forests of Dhalbhum and Saraikela Forest Division of Jharkhand and Kansabati Forest Division of West Bengal, Jamshedpur township and Chandil sub divisional town are merely 0 -5 kilometers from the boundary of Dalma Wildlife Sanctuary.

(2)The said Eco-sensitive Zone covers an area of 522.98 square kilometer in Jharkhand, consisting of the followings, namely:-

(i) enclave villages:

Total number of villages - 85
Area to be included in the Eco-sensitive zone:
Non-forest area - 200.28 square kilometers
Forest area- 198.30 square kilometers
Total- = 398.58 square kilometers;

(ii) villages situated outside the boundary of Protected Area:

The Total number of villages - 51
Area to be included in the Eco-sensitive zone:
Non-forest area - 80.45 square kilometers
Forest area - 43.95 square kilometers
Total = 124.40 square kilometers;

(iii) development blocks:

Patamda, Jamshedpur and Golmuri blocks of East Singhbhum district and Chandil and Nimdih blocks of Saraiakela- Kharsawan district;

(iv) District wise area:

Name of District	Area of eco-sensitive zone
East Singhbhum	377.89 square kilometers
Saraikela- Kharsawan	145.09 square kilometers
Total	**522.98 square kilometers**

(3) The map of the Eco-sensitive Zone is appended to this notification as **Annexure 1** and the list of the villages falling within the Dalma Eco-sensitive Zone is annexed as **Annexure 2.**

2. Zonal Master Plan for the Dalma Eco-sensitive Zone. – (1) A Zonal Master Plan for the Dalma Eco-sensitive Zone shall be prepared by the State Government, in such manner as are specified under the Wild Life (Protection) Act, 1972 (53 of 1972), the law relating to town and country planning for the time being in force in the State, the divisional

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working plans and the guidelines issued by Central Government, within a period of one year from the date of this notification and approved by the Central Government in the Ministry of Environment and Forests.

(2) The Zonal Master Plan shall be prepared in consultation with all concerned State Departments like Department of Environment and Forests, Urban Development, Tourism, Municipal, Revenue and the Jharkhand State Pollution Control Board with a view to include various aspects of the environment and ecology.

(3) The Zonal Master Plan shall provide for restoration of denuded areas, conservation of existing water bodies, management of catchment areas, watershed management, groundwater management, soil and moisture conservation, needs of local community and such other aspects of the ecology and environment that need attention.

(4) The Zonal Master Plan shall demarcate all the existing worshipping places, village settlements, types and kinds of forests, agricultural areas, fertile lands, green areas, horticultural areas, orchards, lakes and other water bodies.

(5) No change of land use from green uses such as tea gardens, horticulture areas, agriculture parks, etc., to non green uses shall be permitted, provided that with a view to meet the residential needs of the local residents and the natural growth of the local populations existing on the date of this notification, the conversion of agricultural land for personal residential purposes may be allowed, subject to the restriction that no concrete construction shall be allowed within 300 meters from the boundary of the Dalma Wildlife Sanctuary.

(6) Pending the preparation of the Zonal Master Plan for Eco-sensitive Zone and approval thereof by the Central Government, all new activities (specified in Annexure 3) shall be allowed only after the proposals are scrutinised and approved by the Monitoring Committee referred to in paragraph 4.

(7) There shall be no consequential reduction in forest area, green area and agricultural area and the unused or unproductive agricultural areas may be converted into forest areas.

(8) The Zonal Master Plan shall be a reference document for the Monitoring Committee of the Eco-sensitive Zone for any decision to be taken by them including consideration for relaxation.

(9) The Central Government and the State Government may specify other measures, if it considers necessary, in giving effect to the provisions of this notification.

3. Prohibited, regulated and permitted activities in Eco-sensitive Zone.- Subject to the provisions of this paragraph, the activities in the Eco-sensitive Zone shall be regulated in accordance with Annexure 3 to this notification.

(1) Industrial Units:

(a) On or after the publication of this notification in the Official Gazette, no new polluting industries shall be allowed to be setup within the Eco-sensitive Zone;

(b) any non-polluting, non-hazardous, small-scale and service industry, agriculture, floriculture, horticulture or agro-based industry producing products from indigenous goods from the Eco-sensitive Zone, and which do not cause any adverse impact on environment, may be permitted in the Eco-sensitive Zone;

(c) no establishment of new wood based industry shall be permitted within the limits of Eco-sensitive Zone.

(2) Quarrying and Mining:

(a) No mining activity except for bona-fide domestic use of the local residents shall be allowed within the of Eco- sensitive Zone.

(b) No crushing activity shall be allowed within the Eco-sensitive Zone.

(3) Construction Activities:

No new construction of any kind shall be allowed in the area falling within a distance of three hundred meters from the boundary of the Dalma Wildlife Sanctuary.

(4) Trees:

There shall be no felling of trees either on forest, Government, revenue or private lands, without the prior permission of the State Government in case of forest land, and the respective District Collector in case of Government, revenue and private land, granted in such manner as may be laid down by the State Government.

(5) Tourism:

Tourism activities shall be allowed in accordance with the Tourism Master Plan, with emphasis on eco-tourism, eco-education and eco-development, to be prepared by the Department of Tourism of the State Government in consultation with the Department of Environment and Forests which shall also form a part of the Zonal Master Plan.

(6) Natural Heritage Sites:

(a) The sites of valuable natural heritage in the Eco-sensitive Zone shall be identified, particularly rock formations, waterfalls, pools, springs, gorges, groves, caves, points, walks, rides, etc., and plans for their conservation in their natural setting shall be incorporated in the Zonal Master Plan.

(b) The development or construction activities at or around the heritage sites shall be regulated in accordance with the Model Regulations for Conservation of Natural and Man-made Heritage Sites formulated by the Central Government in the Ministry of Environment and Forests which shall form part of the Zonal Master Plan and Sub-zonal Master Plan.

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(7) **Man-made heritage sites:**

(a) Buildings, structures, artifacts, areas and precincts of historical, architectural, aesthetic, and cultural significance shall be identified in the Eco-sensitive Zone and plans for their conservation, particularly their exteriors including, their interiors wherever deemed appropriate, shall be prepared and incorporated in the Zonal and Sub-zonal Master Plan.

(b) The development or construction activities at or around the heritage sites shall be regulated in accordance with the Model Regulations for Conservation of Natural and Manmade Heritage Sites referred in clause (b) of sub-paragraph (6).

(8) **Ground Water:**

(a) Extraction of ground water for bona-fide agricultural and domestic consumption of the occupier of land shall be allowed.

(b) Extraction of ground water for industrial, commercial use shall require prior written permission, including the amount that can be extracted, from the State Ground Water Board and the Monitoring Committee.

(c) No sale of ground water shall be permitted except with the prior approval of the Monitoring Committee constituted under paragraph 4.

(d) The conservation of water and its distribution, from existing facilities within the Eco-sensitive Zone, other than sanctuary and forest areas, shall be regulated in accordance to the provisions of the Forest (Conservation) Act, 1980 (69 of 1980).

(e) Appropriate steps shall be taken to prevent contamination or pollution of water, including from agriculture activities.

(9) **Protection of Hill Slopes:**

(a) The Zonal Master Plan shall indicate areas on hill slopes where no construction shall be permitted.

(b) No construction on existing steep hill slopes or slopes with a high degree of erosion shall be permitted.

(10) **Road:**

Widening and strengthening of existing roads and construction of new roads may be allowed in the Eco-sensitive Zone.

(11) **Use of Plastics:**

No person shall use plastic carry bags within the Eco-sensitive Zone area and the disposal of plastic articles shall be prohibited.

(12) **Noise pollution:**

The Environment Department or the Forest Department of the State Government shall be the authority to frame and issue guidelines and regulations for the control of noise in the Eco-sensitive Zone.

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(13) **Discharge of effluents:**
No untreated or industrial effluent shall be permitted to be discharged into any water body or land within the Eco-sensitive Zone and the treated effluent shall meet the provisions of the Water (Prevention and Control of Pollution) Act, 1974.

(14) **Solid Wastes:**
(a) The solid waste shall not be disposed off in the Eco-sensitive Zone:

Provided that the Monitoring Committee shall indentify a site for disposal of such solid wastes in accordance with the provisions of the Municipal Solid Waste (Management and Handling) Rules, 2000 notified by the Central Government in the Ministry of Environment and Forests vide notification number S.O. 908 (E), dated the 25th September, 2000, as amended from time to time;

(b) (i) the local authorities shall prepare plans for the segregation of solid wastes into biodegradable and non-biodegradable components;
(ii) the biodegradable material may be recycled preferably through composting or vermi culture;
(iii) the inorganic material may be disposed in an environmentally acceptable manner at site identified outside the Eco-sensitive Zone; and
(iv) no burning or incineration of solid wastes shall be permitted in the Eco-sensitive Zone.

(15) **Natural Springs:**
The catchment area of all springs shall be identified and plans for their conservation and rejuvenation of those that have run dry, in their natural setting, shall be incorporated in the Zonal Master Plan and the State Government shall issue guidelines to prohibit the activities at or near these areas.

4. Monitoring Committee (1) In exercise of the powers conferred by sub-section (3) of section 3 of the Environment (Protection) Act, 1986 (29 of 1986), the Central Government hereby constitutes a Committee to be called the Dalma Eco-sensitive Zone Monitoring Committee to monitor the compliance of this notification.

(2) The Monitoring Committee referred to in sub-paragraph (1), shall consist of the following members, namely:-

(a) the Commissioner of Kolhan Revenue Division – Chairman;
(b) a representative of the Ministry of Environment and Forests, Government of India Member;
(c) a representative of the Central Pollution Control Board, constituted under sub-section 1 of section 3 of the Water (Prevention and Control of Pollution) Act, 1974 (16 of 1974) – Member;
(d) a representative of the Department of Forests and Environment, Government of Jharkhand - Member;
(e) a representative of the Department of Mines, Government of Jharkhand – Member;

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(f) a representative of the Department of Industries, Government of Jharkhand – Member;
(g) a representative of the Department of Revenue, Government of Jharkhand – Member;
(h) a representative of the Department of Irrigation, Government of Jharkhand – Member;
(i) a representative of the Department of Public Works, Government of Jharkhand – Member;
(j) a representative of Non-governmental Organizations working in the field of environment (including heritage conservation) to be nominated by the Ministry of Environment and Forests, Government of India – Member;
(k) the Regional Officer, Jharkhand State Pollution Control Board, Ranchi – Member;
(l) the Senior Town Planner, Government of Jharkhand– Member;
(m) one expert in the area of ecology and environment to be nominated by the Ministry of Environment and Forests, Government of India – Member;
(n) the Divisional Forest Officer, Incharge of the Dalma Wildlife Sanctuary – Convener.

(3) The powers and functions of the Monitoring Committee shall be restricted to the compliance and monitoring of the provisions of this notification.

(4) In case of activities requiring prior permission, under the provisions of the notification of the Government of India in the Ministry of Environment and Forests number S.O. 1533 (E), dated the 14th September, 2006 published in the Gazette of India, Extraordinary, Part II, Section 3, Sub-section (ii), the Monitoring Committee shall refer all such matters to the Central Government in the Ministry of Environment and Forests for prior clearances under the provisions of the said notification.

(5) The Monitoring Committee may invite representatives or experts from concerned Departments or associations to assist in its deliberations depending on the requirements on issue to issue basis.

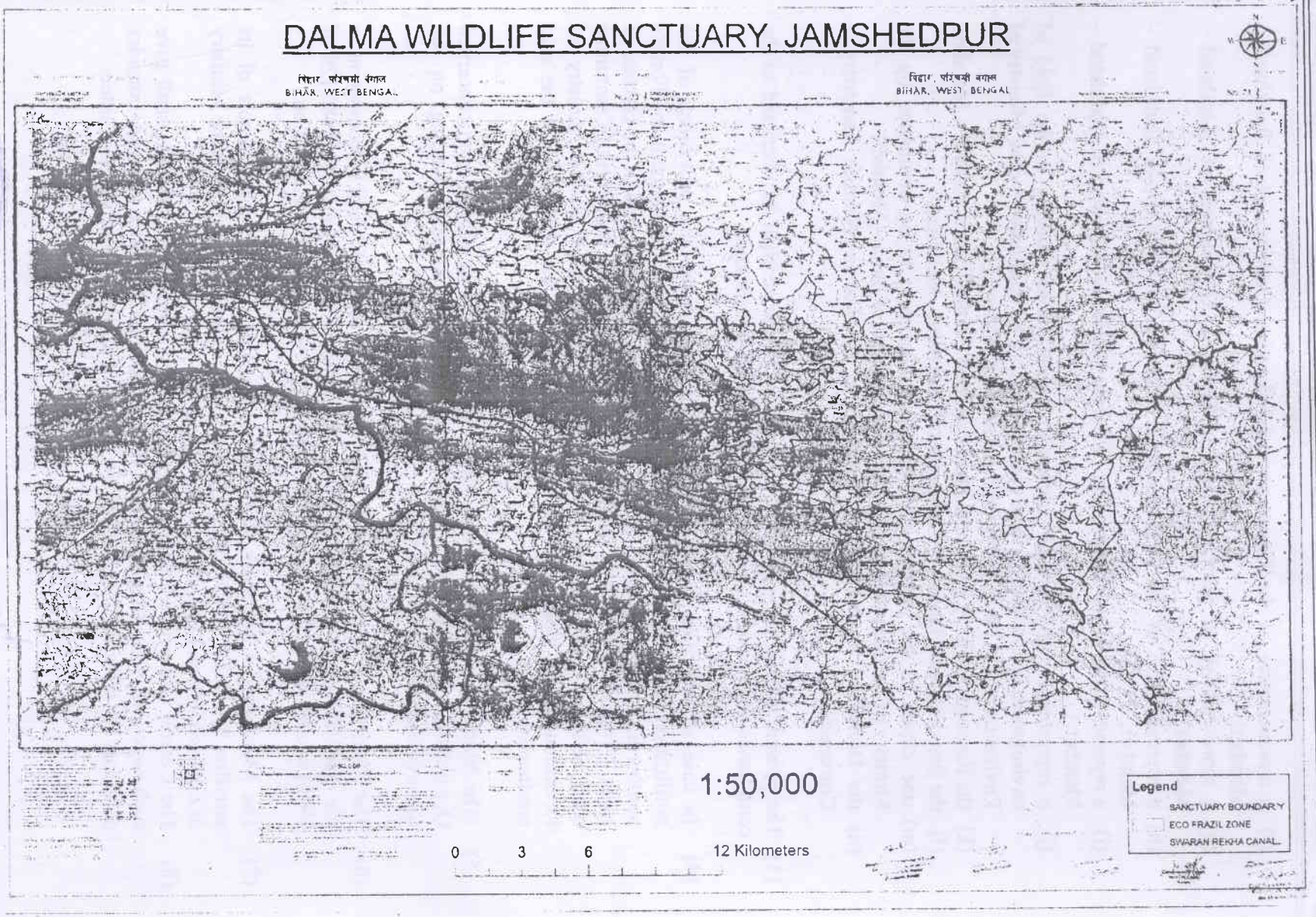
(6) The Chairman or the Convener of the Monitoring Committee shall be competent to file complaints under section 19 of the Environment (Protection) Act, 1986 (29 of 1986) against any person who contravenes the provisions of this notification.

(7) The Monitoring Committee shall submit the annual action taken report of its activities by the 31st March of every year to the Central Government in the Ministry of Environment and Forests.

(8) The Central Government in the Ministry of Environment and Forests shall give such directions, from time to time, to the Monitoring Committee as it may consider necessary for effective discharge of the functions of the Monitoring Committee.

Annexure 1
[See paragraph 1(3)]

Map of Dalma Eco-sensitive Zone.



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Annexure 2
[See paragraph 1(3)]

List of villages falling within the areas of Dalma Eco-sensitive Zone.

Part I-Enclave Villages

S. No.	Name of Village	Administrative Block	Thana No.	Area of Village (in Ha)	Forest Area (in Ha)	No. of Houses	Population
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Bonta	Patmda	119/14	1371.32	798.20	249	1286
2	Kutimakul	Patmda	120/15	180.62	65.13	40	232
3	Bhadudih	Patmda	121/16	205.69	54.97	21	136
4	Saldoha	Patmda	122/17	196.29	87.12	19	118
5	Haludbani	Patmda	123/18	320.88	232.37	108	504
6	Patipani	Patmda	124/19	425.68	366.28	56	246
7	Mirzadih	Patmda	137/20	577.70	315.80	205	991
8	Geruwa	Patmda	138/21	484.31	350.29	129	561
9	Brajpur	Patmda	139/22	155.91	76.23	24	115
10	Punsa	Patmda	140/23	302.71	138.45	116	604
11	Nutandih	Patmda	141/24	808.44	437.87	215	1014
12	Bataluka	Patmda	142/25	544.31	394.32	104	527
13	Amdaphar	Patmda	143/15	368.56	249.33	67	284
14	Apo	Patmda	144/15	859.59	428.66	219	1086
15	Sari	Patmda	145/26	774.78	475.68	218	1114
16	Laylam	Patmda	146/27	1057.63	550.97	273	1510
17	Pagda	Patmda	164/45	349.92	170.23	174	883
18	Kumari	Patmda	166/47	286.56	152.72	132	596
19	Chimti	Patmda	167/48	336.55	226.97	104	459
20	Kukru	Patmda	400/15	248.52	120.91	86	440
21	Ghoraban	Patmda	401/15	617.99	331.19	113	565
22	Jamdih	Patmda	402/15	615.45	509.22	130	708
23	Jhunjhka	Patmda	405/16	1183.49	751.07	252	1219
24.	Khokoro	Patmda	524/10	914.55	766.36	98	450
25	Baghra	Patmda	117/12	290.51	54.97	223	1204
26	Kovani	Patmda	118/13	947.56	664.74	443	2546
27	Goburghu	Patmda	147/28	1042.51	683.92	291	1361
28	Kundruko	Patmda	148/29	150.17	35.52	45	195
29	Bamni	Patmda	149/30	534.80	166.70	213	1019
30	Gagiburu	Patmda	154/35	225.02	10.15	130	690
31	Beldih	Patmda	161/42	947.75	281.51	359	1865
32	Buridih	Patmda	162/92	73.00	65.14	2	22
33	Dhusra	Patmda	163/44	430.83	181.90	186	920
34	Rapcha	Patmda	165/46	222.16	82.14	81	430
55	Andharjho	Patmda	168/49	772.66	346.79	296	1701

36	Dangdung	Patmda	169/50	755.01	353.68	226	1222
37	Dhobni	Patmda	170/51	572.70	325.06	129	801
38	Tungburu	Patmda	404/16	287.94	33.49	119	600
39	Jorisa	Patmda	406/16	450.57	175.44	118	515
40	Dangardih	Patmda	523/09	247.76	72.63	143	685
41	Kaira	Patmda	525/11	1170.59	723.11	203	1062
42	Somadih	Patmda	526/06	290.45	30.60	131	665
43	Bachkamk	Nimdih	254	199.85	93.85	81	426
44	Tankocha	Nimdih	274	341.00	212.77	78	393
45	Ugdih	Nimdih	243	72.84	14.85	168	776
46	Bumdungr	Nimdih	244	92.40	13.81	311	1426
47	Tengadih	Nimdih	275	878.16	386.38	252	1149
48	Jharridih	Nimdih	276	323.81	17.23	42	217
49	Tetla	Nimdih	278	323.81	114.63	271	1024
50	Lupungdih	Nimdih	279	342.21	55.44	403	1877
51	Pitki	Nimdih	280	189.11	33.83	152	768
52	Chelema	Nimdih	310	764.81	210.59	569	2686
53	Bandhdih	Nimdih	312	863.78	586.08	31	159
54	Dahubera	Nimdih	314	258.69	72.70	110	499
55	Makulako	Chandil	Ch268	344.35	238.28	70	347
56	Kadamdih	Chandil	Ch247	72.30	14.25	101	544
57	Shaharber	Chandil	Ch252	190.83	23.53	251	446
58	Sikli	Chandil	Ch253	80.84	37.53	50	249
59	Baralakha	Chandil	Ch255	179.75	30.79	73	391
60	Pata	Chandil	Ch256	350.65	129.88	242	1241
61	Chilgo	Chandil	Ch265	216.99	56.94	341	1788
62	Chakulia	Chandil	Ch266	186.61	48.80	135	657
63	Sharharber	Chandil	Ch267	531.68	312.02	253	1253
64	Tulin	Chandil	Ch269	264.12	151.81	30	135
65	Katjhor	Chandil	Ch270	446.85	153.03	275	1373
66	Hamsda	Chandil	Ch 271	423.83	213.39	143	701
68	Humid	Chandil	Ch273	95.41	23.70	209	923
69	Kadamjho	Chandil	Ch311	479.12	378.42	62	250
70	Asanbani	Chandil	Ch325	1532.27	780.09	275	1467
71	Ramgarh	Chandil	Ch326	696.38	373.99	153	702
72	Kanderber	Chandil	Ch327	662.05	315.00	256	1223
73	Suklahra	Golmuri	Gh	482.75	208.27	131	650
74	Dalapani	Golmuri	Gh	477.79	284.24	68	378
75	Jhantipaha	Golmuri	Ghll34	98.91	98.86	24	131
76	Kudlung	Golmuri	Gh	321.15	142.04	105	569
77	Beko	Golmuri	Gh	518.64	185.08	231	1070
78	Kalajhor	Golmuri	Ghll38	399.38	164.76	147	708
79	Chhotoban	Golmuri	Gh	422.04	185.65	158	759

80	Palasbani	Jamshedpur	Gh	938.26	318.93	'334	2006
81	Bhelaipah	Jamshedpur	Ghll46	567.96	236.07	243	1287
82	Deoghar	Jamshedpur	Ghll47	506.21	181.86	271	1453
83	Baliguma	Jamshedpur	Ghll50	216.36	140.12	1958	8898
84	Pardih	Jamshedpur	Gh	324.65	137.26	5878	29388
85	Dimna	Jamshedpur	Gh	450.75	60.94	6004	29974
			Total	**39858.22**	**38585.**	**40336**	**198974**

Part II- Villages situated outside the boundaries of Protected Area.

S. No.	Name of Village	Administrative Block	Thana No.	Area of Village (in Ha)	Forest Area (in Ha)	No. of Houses	Population
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Baghra	Patmda	117/12	290.51	54.97	223	1204
2	Dangdung	Patmda	169/50	755.01	353.68	226	1222
3	Dhobni	Patmda	170/51	572.70	325.06	129	801
4	Dangardih	Patmda	523/09	247.76	72.63	143	685
5	Barudih	Patmda	-	248.00	91.60	120	628
6	Barubera	Patmda	-	131.00	29.14	101	510
7	Bankucha	Patmda	-	774.00	70.24	400	1993
8	Loadih	Patmda	-	192.00	30.73	162	856
9	Paharpur	Patmda	-	355.00	55.02	198	1186
10	Raherdih	Patmda	-	123.00	4.05	103	503
11	Chamdih	Patmda	-	142.00	5.37	87	493
12	Rakhdih	Patmda	-	171.00	61.62	78	397
13	Rupsham	Patmda	-	249.00	15.98	159	874
14	Muchidhi	Patmda	-	178.00	18.31	127	671
15	Champir	Patmda	-	71.00	20.36	44	237
16	Jilingdung	Patmda	-	55.00	21.86	30	148
17	Jawa	Patmda	-	204.00	76.39	109	478
18	Lekro	Patmda	-	210.00	19.81	67	352
19	Kherwa	Patmda	-	816.00	336.26	373	1942
20	Gordih	Patmda	-	164.00	48.63	167	917
21	Jharbani	Patmda	-	93.00	1205.0	69	339
22	Naingjuri	Patmda	-	113.00	13.15	46	217
23	Sishda	Patmda	-	252.00	72.85	175	403
24	Sarjumli	Patmda	-	89.00	11.23	37	193
25	Lachhipur	Patmda	-	260.00	8.34	217	1016
26.	Bantoraya	Patmda	-	39.00	8.12	151	709
27	Bansgarh	Patmda	-	262.00	0.47	149	725
28	Poklabera	Patmda	-	373.00	19.53	278	1388
29	Patamda	Patmda	-	398.00	172.98	376	2187
30	Amjhor	Patmda	-	397.78	-	-	128
31	Sunderpur	Patmda	-	380.42	-	-	68
32	Bandih	Patmda	-	90.41	-	-	107
33	Murugdih	Patmda		325.00	50.99	176	1020

Approved

34	Barhadih	Golmuri-cum-Jugsalia	-	197.20	318.17	80	106
35	Parasdungri	Golmuri-cum-Jugsalia	-	246.15	264.72	100	38
36	Ugdih	Nimdih	-	71.00	3.70	168	776
37	Janta	Nimdih	-	250.00	9.87	226	1101
38	Kamadula	Nimdih	-	49.00	8.80	39	206
39	Bagri	Nimdih	-	205.00	10.57	134	732
40	Burudih	Nimdih	-	174.00	82.26	55	281
41	Atasimal	Nimdih	-	64.00	7.13	32	171
42	Murugdih	Nimdih	-	325.00	50.99	176	1020
43	Rupadhi	Nimdih	-	59.00	9.99	38	198
44	Kishundih	Nimdih	-	168.00	5.65	120	637
45	Pathardih	Nimdih	-	88.00	6.98	91	424
46	Phaeranga	Nimdih	-	86.00	4.11	111	489
47	Bankada	Nimdih	-	214.68	-	-	73
48	Singati	Chandil		190.00	45.00	227	1148
49	Kashidih	Chandil	-	210.00	47.00	102	552
50	Khuchidih	Chandil	-	562.00	225.32	234	1197
51	Karnidih	Chandil	-	259.00	20.00	247	1305
Total				**12439.62**	**4394.6**	**6800**	**35051**

Annexure 3

[See paragraph 3]

Activities to be prohibited, regulated or permitted within the Eco-Sensitive Zone around Dalma Wildlife Sanctuary

Sl. No.	Activity	Prohibited	Regulated	Permitted
(1)	(2)	(3)	(4)	(5)
1.	Commercial Mining	Yes		
2.	Felling of trees		Yes	
3.	Setting of saw mills	Yes		
4.	Setting of industries causing pollution (Water, Air, Soil, Noise, etc.)	Yes		
5.	Establishment of hotels and resorts		Yes	
6.	Commercial use of firewood	Yes		
7.	Drastic change of agriculture systems		Yes	
8.	Commercial water resources including ground water harvesting		Yes	

9.	Establishment of major hydroelectric projects	Yes		
10.	Erection of electrical cables		Yes	
11.	Ongoing agriculture and horticulture practices by local communities			Yes
12.	Rain Water harvesting			Yes
13.	Fencing of premises of hotels and lodge		Yes	
14.	Organic farming			Yes
15.	Use of polythene bags by shopkeepers		Yes	
16.	Use of renewable energy source			Yes
17.	Widening of roads		Yes	
18.	Movement of vehicular traffic at night		Yes	
19.	Introduction of exotic species		Yes	
20.	Use or production of any hazardous substances	Yes		
21.	Undertaking activities related to tourism like over-flying the National Park area by any aircraft, hot-air balloons	Yes		
22.	Protection of hill slopes and river banks		Yes	
23.	Discharge of effluents and solid waste in natural water bodies or terrestrial area	Yes		
24.	Air and vehicular pollution		Yes	
25.	Sign boards & hoardings		Yes	
26.	Adoption of green technology for all activities			Yes

[F. No. Jharkhand/1/2011-ESZ]

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State Level Environment Impact Assessment Authority Approved Jharkhand

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