

कोडरमा जिलान्तर्गत लघु खनिज (बालू को छोड़कर) का DSR (जिला सर्वेक्षण रिपोर्ट) तैयार करने हेतु दिनांक- 04.04.2026 को उपायुक्त महोदय, कोडरमा की अध्यक्षता में सम्पन्न बैठक की कार्यवाही।

उपस्थिति- पंजी के अनुसार।

सर्वप्रथम उपायुक्त महोदय, कोडरमा द्वारा बैठक में उपस्थित सभी पदाधिकारियों का स्वागत करते हुए बैठक प्रारंभ किया गया।

जिला खनन पदाधिकारी, कोडरमा द्वारा जानकारी दी गई कि वन एवं जलवायु परिवर्तन, मंत्रालय, भारत सरकार के अधिसूचना सं० S.O 3611 (E) दिनांक- 25.07.2018 के अनुरूप कोडरमा जिलान्तर्गत पत्थर लघु खनिज (बालू छोड़कर) का जिला सर्वेक्षण प्रतिवेदन (DSR) जिला स्तर पर गठित Sub Divisional Committee द्वारा तैयार किया गया था, जिसे दिनांक- 09.04.2025 को तत्कालीन उपायुक्त महोदय की अध्यक्षता में सम्पन्न बैठक में लिये गये निर्णय के आलोक में उपायुक्त, कोडरमा (खनन शाखा) के पत्रांक- 380/एम०, कोडरमा, दिनांक- 24.04.2025 द्वारा अनुमोदन हेतु सदस्य सचिव, SEIAA को भेजा गया था।

दिनांक- 07.05.2025 को SEIAA की बैठक में कोडरमा जिला के पत्थर खनिज के जिला सर्वेक्षण प्रतिवेदन को भारत सरकार के अधिसूचना सं० S.O 3611 (E) दिनांक- 25.07.2018 के अनुरूप संशोधित कर पुनः उपस्थापित करने का निर्णय लिया गया।

SEIAA की बैठक में दिये गये निदेश के विमर्शोपरान्त समिति द्वारा निम्नलिखित बिन्दु अंकित किया गया :-

1. जिला खनन पदाधिकारी, कोडरमा द्वारा बताया गया कि वन एवं जलवायु परिवर्तन, मंत्रालय, भारत सरकार के अधिसूचना सं० S.O 3611(E) दिनांक 25.07.2018 के अनुरूप कोडरमा जिलान्तर्गत पत्थर लघु खनिज (बालू छोड़कर) का संशोधित जिला सर्वेक्षण रिपोर्ट (DSR) जिला स्तर पर गठित Sub Divisional Committee द्वारा तैयार किया गया है।
2. जिला खनन पदाधिकारी, कोडरमा द्वारा जानकारी दी गई कि वर्तमान में कोडरमा जिलान्तर्गत 04 प्रखण्ड यथा डोमचौच, जयनगर, मरकच्चो एवं चन्दवारा में पत्थर खनन पट्टा स्वीकृत है, जिसके बावत ग्राउन्ड वॉटर लेवल का रिपोर्ट प्राप्त है। शेष 02 प्रखण्ड यथा कोडरमा एवं सतगाँवा के लिए अलग- अलग व्यक्तियों द्वारा खनन पट्टा की स्वीकृति हेतु आवेदन दाखिल करने की रूची दर्शाते हुए IIT ISM Dhanbad संस्थान से कोडरमा एवं सतगाँवा अंचल का ग्राउन्ड वॉटर लेवल का रिपोर्ट सर्वे कराकर जिला खनन कार्यालय, कोडरमा में समर्पित किया गया है। उक्त ग्राउन्ड वॉटर लेवल रिपोर्ट को सर्वसम्मति से जिला सर्वेक्षण प्रतिवेदन में सम्मिलित किया गया है।



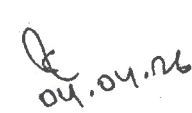
3. जिला खनन पदाधिकारी, कोडरमा द्वारा जानकारी दी गई कि SEIAA, Ranchi के गाईडलाईन के अनुसार वन प्रमण्डल पदाधिकारी, कोडरमा वन प्रमण्डल से Flora and Fauna से संबंधित प्रतिवेदन, क्षेत्रिय पदाधिकारी, झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद, हजारीबाग का प्रदूषण मानक से संबंधित प्रतिवेदन तथा सिविल सर्जन, कोडरमा द्वारा टी0वी0 एवं सिलकॉसिस बिमारी से संबंधित प्रतिवेदन प्राप्त हो चुका है, जिसे जिला स्तर पर गठित Sub Divisional Committiee द्वारा तैयार DSR में शामिल कर लिया गया है।
4. जिला खनन पदाधिकारी, कोडरमा द्वारा बताया गया कि पूर्व में ही जिला के Website (NIC Portal) पर ड्राफ्ट DSR, Public के सुझाव/शिकायत हेतु 21 दिनों के लिए अपलोड किया गया था, जिसपर कोई आपत्ति प्राप्त नहीं है।
5. विमर्शोपरान्त कोडरमा जिला के Sub Divisional Committiee द्वारा लघु खनिज (बालू छोड़कर) का तैयार संशोधित जिला सर्वेक्षण प्रतिवेदन (DSR) को सर्वसम्मति से अनुमोदित किया गया। तत्पश्चात् DSR की अंतिम प्रति/अंतिम रूप पर सभी Sub Divisional Committiee के सदस्यों द्वारा हस्ताक्षर के उपरान्त सदस्य सचिव, राज्य स्तरीय पर्यावरणीय समाघात निर्धारण प्राधिकरण (SEIAA) को प्रेषित करने का निदेश उपायुक्त महोदय द्वारा दिया गया।

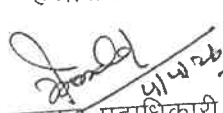
अंत में धन्यवाद ज्ञापन के साथ बैठक की कार्यवाई समाप्त की गयी।

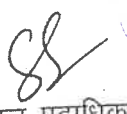
  
क्षेत्रीय पदाधिकारी,  
प्रदूषण नियंत्रण पर्वद,  
हजारीबाग।

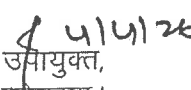
  
कार्यपालक अभियंता,  
लघु सिंचाई प्रमण्डल,  
कोडरमा।

  
सहायक निदेशक,  
भूतत्व, कोडरमा।

  
जिला खनन पदाधिकारी,  
कोडरमा।

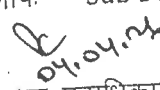
  
अनुमण्डल पदाधिकारी,  
कोडरमा।

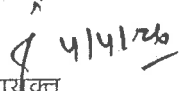
  
वन प्रमण्डल पदाधिकारी,  
कोडरमा वन प्रमण्डल।

  
उपायुक्त,  
कोडरमा।

ज्ञापांक- 373/एम0, कोडरमा, दिनांक- 10/04/2026

प्रतिलिपि:- Sub Divisional Committee के सभी सदस्यों को सूचनार्थ प्रेषित।

  
जिला खनन पदाधिकारी,  
कोडरमा।

  
उपायुक्त,  
कोडरमा।





## राज्य स्तरीय पर्यावरण समाघात निर्धारण प्राधिकरण, झारखण्ड

State Level Environment Impact Assessment Authority, Jharkhand

पौधशाला परिसर, धुर्वा, बस स्टैंड, के समीप, पो0+थाना-धुर्वा, राँची झारखण्ड 834004

ई-मेल: chr-seiaajhr@gov.in एवं msseiaa.jhk@gmail.com; वेबसाइट: www.jseiaa.in

सत्यमेव जयते

पत्रांक:- 81

दिनांक:- 24.06.2026

प्रेषक:

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

सेवा में,

उपायुक्त,  
जिला : कोडरमा,  
झारखण्ड।

विषय : कोडरमा जिला का पत्थर खनिज से संबंधित (other than Sand Mining or River-Bed Mining ) हेतु निर्मित अद्यतन (Updated) DSR के अनुमोदन के संबंध में।

प्रसंग : आपका कार्यालय का पत्रांक- 372/एम0, दि0-10.04.2026।

महाशय,

उपर्युक्त विषयक आपके कार्यालय के प्रासंगिक पत्र दिनांक 10.04.2026 द्वारा कोडरमा, जिला का पत्थर खनिज से संबंधित (other than Sand Mining or River- Bed Mining ) हेतु निर्मित अद्यतन (Updated) DSR की एक प्रति अनुमोदन हेतु दिनांक 04.06.2026 को SEIAA कार्यालय में समर्पित किया गया।

तदनुसार SEAC, झारखण्ड की 132वीं बैठक दिनांक 09.06.2026 से दिनांक 15.06.2026 में संबंधित DSR का आकलन किया गया तथा निम्नवत बिन्दुओं पर आपकी सहमति प्राप्त करते हुए DSR अनुमोदन हेतु SEIAA को अनुशंसा भेजा गया :

1. The updated DSR had been placed in the public domain for 21 days from the 15.10.2024. As per the Sub Divisional Committee no comments / observations were received.
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.

तदालोक में SEIAA, झारखण्ड की 132वीं बैठक दिनांक 22.06.2026 से दिनांक 24.06.2026 में विचार किया गया तथा सामुहिक निर्णयोंपरांत कोडरमा, जिला का पत्थर

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24

खनिज से संबंधित (other than Sand Mining or River- Bed Mining) हेतु निर्मित अद्यतन (Updated) DSR का अनुमोदन किया गया।

कोडरमा, जिला का पत्थर खनिज से संबंधित (other than Sand Mining or River- Bed Mining) हेतु निर्मित अद्यतन (Updated) अनुमोदित DSR की एक मूल प्रति अत्र-सह-संलग्न कर आपको अग्रेतर कार्रवाई हेतु भेजा जा रहा है।

अनु० यथोक्त।

विश्वासभाजन,



सदस्य सचिव,

R.2 राज्य स्तरीय पर्यावरण समाघात निर्धारण  
प्राधिकरण (SEIAA), झारखण्ड।







उपायुक्त -सह- जिला दण्डाधिकारी का कार्यालय, कोडरमा।

(खनन शाखा)

पत्रांक:- 372 / एम0, कोडरमा, दिनांक:- 10/04/2026

प्रेषक,

उपायुक्त -सह- जिला दण्डाधिकारी,  
कोडरमा।

सेवा में,

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

विषय :- कोडरमा जिलान्तर्गत पत्थर लघु खनिज (बालू छोडकर) का जिला सर्वेक्षण प्रतिवेदन (DSR) के संबंध में।

प्रसंग:- SEAC की 123वी0 बैठक की कार्यवाही।

महाशय,

उपर्युक्त विषयक प्रसांगिक पत्र के आलोक में कहना है कि Sub Divisional Committee द्वारा तैयार किये गये पत्थर लघु खनिज (बालू छोडकर) के जिला सर्वेक्षण प्रतिवेदन (DSR) में प्रसांगिक पत्र के आलोक में वन एवं जलवायु परिवर्तन, मंत्रालय, भारत सरकार के अधिसूचना सं0 S.O 3611(E), दिनांक- 25.07.2018 के अनुरूप आंशिक संशोधन किया गया है।

अतः कोडरमा जिला से संबंधित लघु खनिज (बालू छोडकर) का जिला सर्वेक्षण प्रतिवेदन (DSR) की 02 अदद मूलप्रति इस पत्र के साथ संलग्न कर अनुमोदन हेतु भेजी जा रही है।

अनुलग्नक :- यथोक्त।

सूचनार्थ एवं आवश्यक कार्रवाई हेतु प्रेषित।

विश्वासभाजन

*(Handwritten signature)*

उपायुक्त-सह-जिला दण्डाधिकारी  
कोडरमा।





# DISTRICT SURVEY REPORT (UPDATED) FOR MINOR MINERALS OTHER THAN SAND MINING OR RIVER BED MINING FOR KODERMA DISTRICT

*As per Notification No.- S.O.3611 (E), dated: 25<sup>th</sup> July, 2018, of  
Ministry of Environment Forest and Climate change, Government of India, New Delhi*



**APRIL, 2026**

  
(DMO, Koderma)  
(MANOJ TOPPO)



# Koderma District Survey Report for Stone

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## Koderma District Survey Report for Stone

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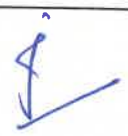
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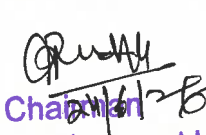


## Koderma District Survey Report for Stone

### MEMBERS IN PREPARATION OF THIS DISTRICT SURVEY REPORT

|                                                                                        |                                                                                       |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| District Mining Officer, Koderma                                                       |    |
| Assistant Director, Geology, Koderma                                                   |    |
| Regional Officer, State Pollution Control Board, Hazaribagh                            |    |
| Executive Engineer, Minor Irrigation, Koderma                                          |    |
| Sub-Divisional Officer, Koderma                                                        |     |
| Divisional Forest Officer, Koderma                                                     |  |
| Deputy Commissioner, Koderma                                                           |   |
| Member Secretary,<br>State Level Environment Impact Assessment<br>Authority, Jharkhand |  |

  
Member  
State Level Environment Impact  
Assessment Authority, Jharkhand

  
Chairman  
State Level Environment Impact  
Assessment Authority, Jharkhand

  
Member Secretary  
State Level Environment  
Impact Assessment Authority,  
Jharkhand



## CHAPTER – I INTRODUCTION

### 1.1 Regulatory Frame Work

EIA notification 1994 published by MoEF & CC mandated that all mining project of all major minerals having lease area more than 5 Ha. will have to obtain environment clearance from designated regulatory authority. Mining projects for minor minerals were exempted from obtaining environment clearance.

EIA notification No. S.O. 1533 (E) dated 14/09/2006 mandates that all activities listed in the schedule attached with the notification are required to obtain environment clearance from competent regulators. Mining activities are listed at Sl. No. 1(a) in the schedule. This notification exempted mining activities having lease area less than 5 Ha. from obtaining environment clearance.

Hon'ble Supreme Court in its judgement at 27<sup>th</sup> February, 2012 in 1A No. 12-13 of 2011 in special leave petition (C) No. 10628-19629 of 2009 in the matter of Deepak Kumar VS State of Haryana & other made prior environment clearance mandatory for minor minerals irrespective of area of mining lease.

In order to comply with judgment of Hon'ble Supreme Court the MoEF & CC issued S.O. 141(E) dt. 15/01/2016. Further the MoEF & CC vide notification S.O. 3611 (E) dt. 25/07/2018 provided the details on structure of DSR for (Minor Minerals) other than riverbed / sand mining projects.

### 1.2 Structure of District Survey Report as per MOEF & CC

The District Survey Report for minor minerals other than sand mining or River bed mining shall be as per structure mentioned below: -

#### **FORMAT FOR PREPARATION OF DISTRICT SURVEY REPORT FOR MINOR MINERALS OTHER THAN SAND MINING OR RIVER BED MINING**

- (1) Introduction;
- (2) Overview of Mining Activity in the District;
- (3) General Profile of the District;
- (4) Geology of the District;
- (5) Drainage of Irrigation pattern;
- (6) Land Utilisation Pattern in the District: Forest, Agricultural, Horticultural, Mining etc.
- (7) Surface Water and Ground Water scenario of the district
- (8) Rainfall of the district and climatic condition;



4



## Koderma District Survey Report for Stone

(9) Details of the mining leases in the District as per the following format

| Sl. No. | Name of the Minera | Name of the Lessee | Address & Contact No. of Lessee | Mining lease Grant Order No. & date | Area of Mining lease (ha) | Period of Mining lease (Initial) |    | Period of Mining lease (1st/2nd...renewal) |    |
|---------|--------------------|--------------------|---------------------------------|-------------------------------------|---------------------------|----------------------------------|----|--------------------------------------------|----|
|         |                    |                    |                                 |                                     |                           | From                             | To | From                                       | To |
| 1       | 2                  | 3                  | 4                               | 5                                   | 6                         | 7                                | 8  | 9                                          | 10 |
|         |                    |                    |                                 |                                     |                           |                                  |    |                                            |    |

| 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) |
|------------------------------------------|------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------|
| 11                                       | 12                                                               | 13                   | 14                                                                                    | 15                                                   | 16                                        |
|                                          |                                                                  |                      |                                                                                       |                                                      |                                           |

(10) Details of Royalty or Revenue received in last three years;

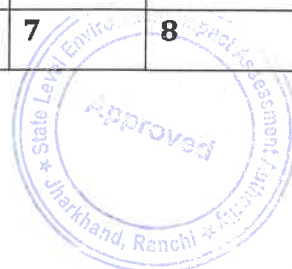
(11) Details of Production of Minor Mineral in last three years;

(12) Mineral Map of the District;

(13) List of Letter of Intent (LOI) Holders in the District along with its validity as per the following format:

| 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       | 2                   | 3                  | 4                                                | 5                                       | 6                                   | 7               | 8                           | 9                                                    |
|         |                     |                    |                                                  |                                         |                                     |                 |                             |                                                      |

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## Koderma District Survey Report for Stone

|  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|

- (14) Total Mineral Reserve available in the District;
- (15) Quality /Grade of Mineral available in the District;
- (16) Use of Mineral;
- (17) Demand and Supply of the Mineral in the last three years;
- (18) Mining leases marked on the map of the district;
- (19) details of the area of where there is a cluster of mining leases viz. number of mining leases, location (latitude and longitude);
- (20) Details of Eco-Sensitive Area, if any, in the District;
- (21) Impact on the Environment (Air, Water, Noise, Soil, Flora & Fauna, land use, agriculture, forest etc.) due to mining activity;
- (22) Remedial Measures to mitigate the impact of mining on the Environment;
- (23) Reclamation of Mined out area (best practice already implemented in the district, requirement as per rules and regulation, proposed reclamation plan); (24) risk Assessment & Disaster Management Plan;
- (24) Risk Assessment & Disaster Management Plan;
- (25) 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);
- (26) Plantation and Green Belt development in respect of leases already granted in the District;
- (27) Any other information.

2





## Koderma District Survey Report for Stone

### Chapter – II Overview of Mining Activity in the District;

Koderma is one of the districts of Jharkhand which is blessed with abundant natural resources and rich mineral deposits throughout the district. Earlier it was famous for production of world class mica and was known as the Mica Capital of India or Abrakh-Nagri. Having more than numerous Mica Mining leases spread over thousands of acres within the Koderma sub division of Hazaribagh, presently Koderma District. It was only after the enactment of Forest Conservation Act 1980 that all mica mines have been closed down as all the mining leases falls within the sanctuary area of the forest.

Along with mica, quartz, feldspar, tourmaline, etc are the minerals found here also building materials like sand, morrum, ordinary earth, building stones etc are available in abundance.

**Table 1 Overview of Mining activities in the District**

| Mineral                                         | No. of Working Mines |
|-------------------------------------------------|----------------------|
| Running leases for Stone                        | 37                   |
| Letter of Intent holders for Stone              | 20                   |
| Applications applied in the district for Stone  | 69                   |
| Bricks soil earth mining leases in the district | 15                   |

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# Koderma District Survey Report for Stone

## Chapter - III General Profile of the District;

Table 2 General Profile of the District

|                              |                                                                                                                                                                     |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| District                     | Koderma                                                                                                                                                             |
| Headquarter                  | Koderma                                                                                                                                                             |
| No. of Sub Division          | 1                                                                                                                                                                   |
| No. of Blocks                | 6 <ul style="list-style-type: none"> <li>➤ Kodarma</li> <li>➤ Markacho</li> <li>➤ Jainagar</li> <li>➤ Satgawan</li> <li>➤ Domchanch</li> <li>➤ Chandwara</li> </ul> |
| No. of Panchayats            | 109                                                                                                                                                                 |
| No. of Villages              | 717                                                                                                                                                                 |
| Area (Sq. Km.)               | 2540.00                                                                                                                                                             |
| Water Bodies                 | Barsoi River, Sakri River, Barakar River, Ponchkhara nadi, Keso nadi, Akto nadi, Guro nadi and Gukhana nadi                                                         |
| Toposheet                    | 72H/6,7,10,11,13,14,15,16                                                                                                                                           |
| Co-ordinate                  | The Koderma district is bounded by longitudes 85°26'01" and 85°54'16" (E) and latitudes 24°15'46" and 24°40'18" (N).                                                |
| Total Population             | 716259                                                                                                                                                              |
| Male Population              | 367222                                                                                                                                                              |
| Female Population            | 349037                                                                                                                                                              |
| Percentage urban Population  | 80.28 %                                                                                                                                                             |
| Percentage Rural Population  | 19.82 %                                                                                                                                                             |
| Sex Ratio                    | 950                                                                                                                                                                 |
| Person Percentage Literacy   | 66.84 %                                                                                                                                                             |
| Male Percentage Literacy     | 79.78 %                                                                                                                                                             |
| Female Percentage Literacy   | 53.23 %                                                                                                                                                             |
| ST Population Percentage     | 0.96 %                                                                                                                                                              |
| SC Population Percentage     | 15.22 %                                                                                                                                                             |
| Total Workers                | 257418 (35.94 %)                                                                                                                                                    |
| Total Male Worker            | 173993                                                                                                                                                              |
| Total Female Worker          | 83425                                                                                                                                                               |
| Total Main Workers           | 143324 (20.01 %)                                                                                                                                                    |
| Total Male Main Workers      | 117881                                                                                                                                                              |
| Total Female Main Workers    | 25443                                                                                                                                                               |
| Total Marginal Worker        | 114094 (15.93 %)                                                                                                                                                    |
| Total Male Marginal Worker   | 56112                                                                                                                                                               |
| Total Female Marginal Worker | 57982                                                                                                                                                               |

## Koderma District Survey Report for Stone

|                         |                  |
|-------------------------|------------------|
| Total Non-Worker        | 458841 (64.06 %) |
| Total Male Non-Worker   | 193229           |
| Total Female Non-Worker | 265612           |

### Connectivity

**By Air** : The closest airport is Gaya Airport (92 km), which is situated in the Bihar town of Bodh Gaya.

**By Rail** : Koderma Railway Station

**By Road** : Grand Trunk Road (GT Road) or NH 31 passes through the District. Koderma is well connected to other major cities of the country via regular buses.

Koderma District has borders with: North and West: Bihar, North and East: Giridih District, South West: Hazaribagh District.



## Koderma District Survey Report for Stone

### Chapter – IV Geology of the District;

The entire district is underlain by the rocks of wide variety of geological formation ranging in age from Archean to Recent. The main being Archean proterozoic, pemo-carboniferous and recent. Phyllite, Mica Schist, Granite gneiss and intrusive granite are the main geological formation of the district. Sporadic occurrence of Dolerite, Quartz pegmatite veins and Quartzites are also found. Few portion of Gondwana sediments are found in the block of Markacho and Jainagar. Thin deposits of alluvium are found along the course of rivers. The Geological succession of Koderma district is given below.

#### GEOLOGICAL SUCCESSION

| Age                    | Rocktype                                                             |
|------------------------|----------------------------------------------------------------------|
| Recent                 | Alluvium                                                             |
| Permo-carboniferous    | Gondwana sediments                                                   |
| -----Unconformity----- |                                                                      |
|                        | Dolerite dyke                                                        |
|                        | Rapakavi granite and pegmatites                                      |
| Proterozoic            | Biotite augen gneiss                                                 |
|                        | Medium grained massive granites and pegmatites                       |
|                        | Massive quartzite with slaty and phyllitic intercalatioons           |
|                        | Sillimanite muscovite schist, calc silicate rocks, hornblende schist |
|                        | Quartz mica schist                                                   |
|                        | Garnetiferous biotite schist                                         |
|                        | Migmatite and composite gneisses                                     |
| -----Unconformity----- |                                                                      |
| Archean                | Chotanagpur granite gneisses                                         |

The district is underlain by wide range of geological formations ranging in age from Archeans to Recent. Phyllite, Mica Schists, Granite gneiss and intrusive granites are the main geological formations of the district. Sporadic occurrence of Dolerite, Quartz, quartz pegmatite veins and quartzite are also found. Thin venner of thin alluvium are found near the course of rivers.

In koderma district most of the areas are covered by biotite-granite gneiss, phyllite mica-schist, Intrusive granite, pegmatite veins, Amphibolite hornblende schist,

Q



## Koderma District Survey Report for Stone

Quartzite and alluvium. In Chandwara block three-fourth areas are covered by biotite granite gneiss and one-fourth area is covered by Phyllite mica-schist and Quartzite. In Jainagar block eighty percent area is covered by Biotite granite gneiss and twenty percent area is covered by quartzite and phyllite mica-schist. Markacho block has forty-five percent area covered by Phyllite mica schist, forty-five percent area by biotite granite gneiss and ten percent by Quartzite. In Koderma block Phyllite-mica schist and Intrusive granite are the main rock types. In Satgawan block, central portion of the block and adjacent to Sakri river alluvium is the main formation. Southern portion of the district is covered by Intrusive granite, Phyllite - mica schist and quartzite while the northern portion of the block has Quartzite, Amphibolite hornblende schist and gneisses are observed.

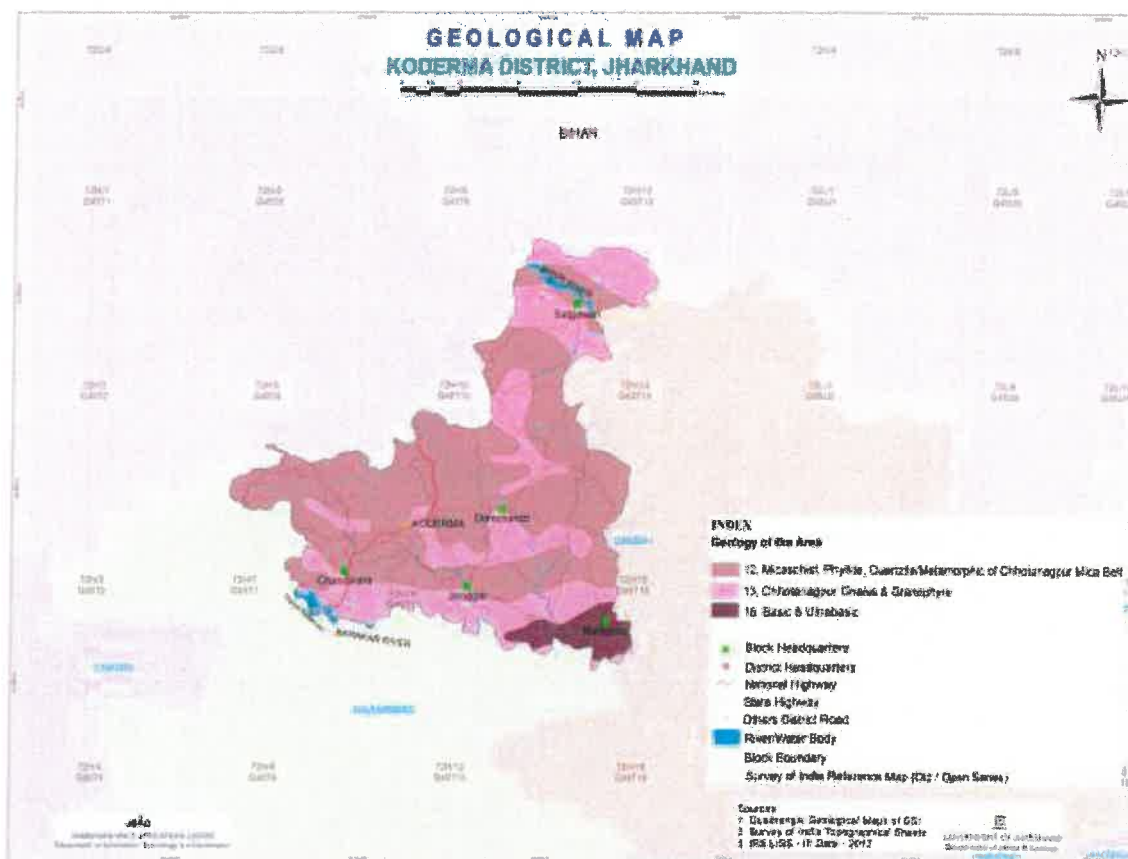


Figure 1

Geological Map of Koderma (Source-JSAC)

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## Koderma District Survey Report for Stone

### Chapter – V Drainage of Irrigation pattern;

Mainly Barakar, Sakri River and their tributaries drain the district of Koderma. The flow of Barakar is from west to east and in the southern part of the district. The river Ponchkhara, Keso, Akto, Guro and Gukhana nadi flow from west to east and are the tributaries of Barakar river. Sakri River is the main river of northern part of the district that flows from Southeast to northwest part of the district. Ghagra and Chhotanari nadi are the tributaries of Sakri river. The drainage map of the district is depicted in figure below;

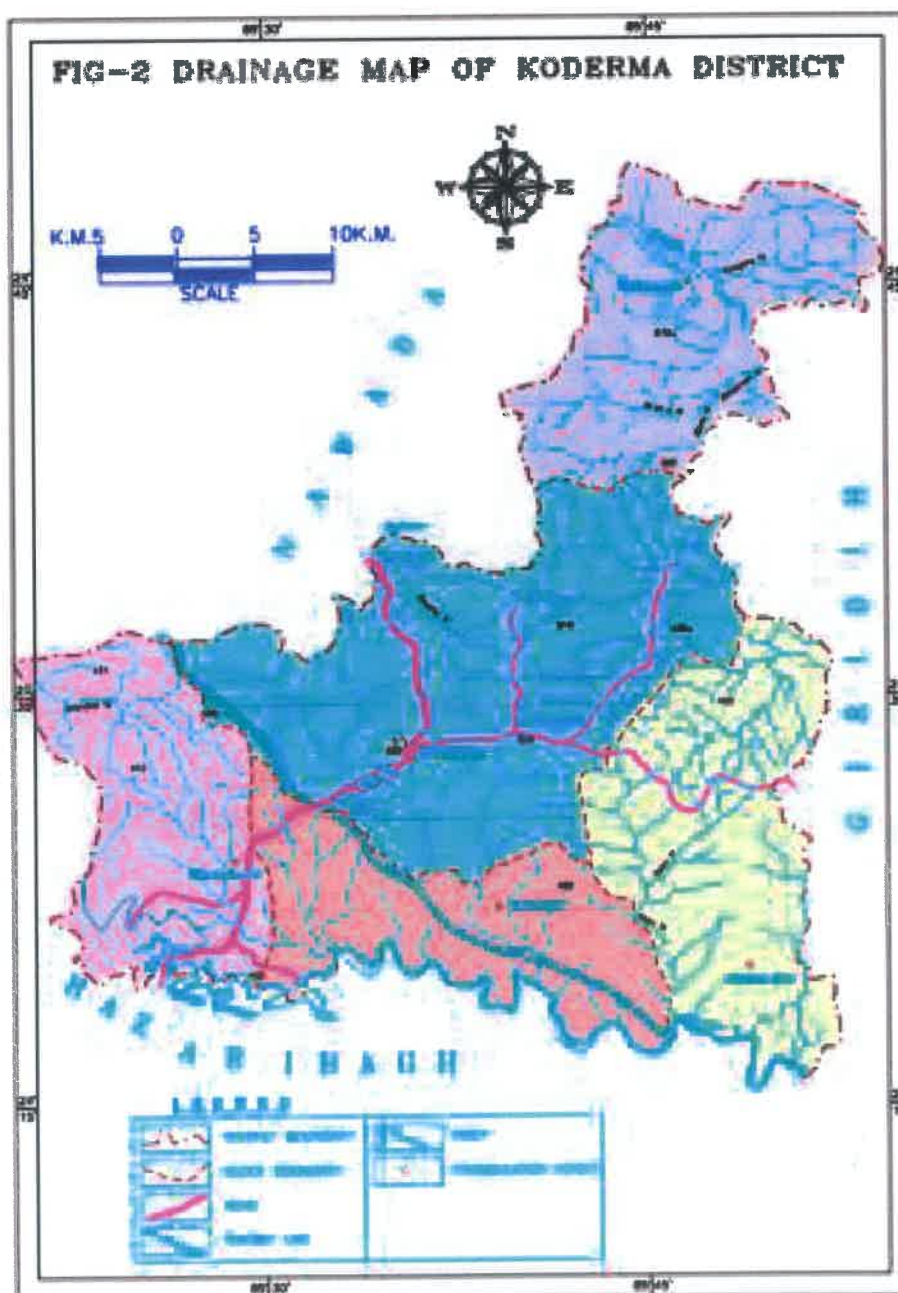


Figure 2

Drainage Map of Koderma (Source – CGWB)

## Koderma District Survey Report for Stone

### Chapter - VI Land Utilisation Pattern in the District: Forest, Agricultural, Horticultural, Mining etc.

**Table 3 Classification of Land Utilization Statistics in the district Koderma**

| Year    | Reporting Area | Forest Area | Area under Non-agricultural use | Barren & unculturable land | Permanent pastures & others grazing land | Land under misc. tree groves not included in Net area sown | Culturable waste land | Fallow land other than Current fallow | Current fallow | Net area sown |
|---------|----------------|-------------|---------------------------------|----------------------------|------------------------------------------|------------------------------------------------------------|-----------------------|---------------------------------------|----------------|---------------|
| (1)     | (2)            | (3)         | (4)                             | (5)                        | (6)                                      | (7)                                                        | (8)                   | (9)                                   | (10)           | (11)          |
| 2016-17 | 163047         | 77608       | 9780                            | 8273                       | 205                                      | 1007                                                       | 3550                  | 22504                                 | 21116          | 17204         |
| 2017-18 | 163047         | 77608       | 10278                           | 8880                       | 2085                                     | 885                                                        | 3556                  | 24109                                 | 19047          | 16599         |
| 2018-19 | 163047         | 77608       | 10244                           | 8874                       | 2091                                     | 1229                                                       | 3545                  | 24268                                 | 19233          | 15965         |
| 2019-20 | 163047         | 77608       | 10437                           | 10280                      | 2191                                     | 1461                                                       | 3792                  | 24011                                 | 20741          | 12526         |
| 2020-21 | 163047         | 77608       | 10364                           | 10229                      | 2183                                     | 1444                                                       | 4632                  | 29845                                 | 19799          | 12949         |

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## Koderma District Survey Report for Stone

### Chapter – VII Surface Water and Ground Water scenario of the district

#### 7.1 Surface Water

Table 4 Rivers and dam in the district

| Rivers in the District                           |                   |                            |                                |            |                                 |
|--------------------------------------------------|-------------------|----------------------------|--------------------------------|------------|---------------------------------|
| S. No.                                           | Name of the River | Area Drained               | % Area Drained in the District |            |                                 |
| 1                                                | Tilaiya           | 48.65                      | 2.997                          |            |                                 |
| 2                                                | Barakar           | 51.92                      | 3.199                          |            |                                 |
| 3                                                | Dhadhar           | 1.04                       | 0.064                          |            |                                 |
| 4                                                | Pipradih          | 1.48                       | 0.091                          |            |                                 |
| 5                                                | Phutahiv Nala     | 0.88                       | 0.054                          |            |                                 |
| 6                                                | Rajwa             | 0.11                       | 0.007                          |            |                                 |
| 7                                                | Chhotnar Nala     | 2.30                       | 0.142                          |            |                                 |
| 8                                                | Sakri             | 8.44                       | 0.52                           |            |                                 |
| Source: Approved DSR (Sand) for Koderma District |                   |                            |                                |            |                                 |
| Dams in the District                             |                   |                            |                                |            |                                 |
| Sl. No.                                          | Name              | Purpose                    | River                          | Length (m) | Max Height above Foundation (m) |
| 1.                                               | Kesho Dam         | Irrigation                 | Kesho                          | 2052       | 14.57                           |
| 2.                                               | Salaiya Dam       | Irrigation                 | Barsoti                        | 990        | 18.6                            |
| 3.                                               | Tilaiya Dam       | Hydroelectric & Irrigation | Barakar                        | 366        | 29.7                            |

#### 7.2 Ground Water

List of blocks categorised based on Dynamic Groundwater Resource Estimation of Jharkhand (2022) published by CGWB.

- Jainagar : Critical
- Koderma : Semi-Critical

#### 7.3 Hydrogeology

The rock type in the area are mainly granite gneiss, schist, pegmatite and Quartzite which have undergone intensive weathering both due to structural disturbances and physical condition. Fractures and weathered mantle form the main repository for the movement of ground water. Owing to the process of

## Koderma District Survey Report for Stone

weathering the following subsurface section can normally be found in the district of Koderma. Thickness as well as depth goes on varying from one place to another.

|                                             |                                                                 |
|---------------------------------------------|-----------------------------------------------------------------|
| "D" Soil cover                              | Sandy clay and clayey sand often with Concretion.               |
| "C" Decomposed Zone<br>(Weathered/pediment) | Altered massive clays commonly plastic                          |
| "B" Disintegrated Zone                      | Disintegrated crystal aggregate and rock (Saprolite) fragments. |
| "A" Fresh                                   | Fracture Zone                                                   |

Fractured rock. The above profile has been encountered in many places in the district. Near Domchanch thickness of section "B" is very meager, however, section 'C' in this area is found to be of considerable thickness. There is variation in porosity and permeability of the weathered mantle in different zones. Zone 'C' has comparatively more porosity as compared to other three zones. Thick weathered mantle maybe considered as potential and productive aquifer. Hence, pediment & buried pediment may be proved as Ground Water worthy area. In places where there is thin weathered mantle ground water occurs in the fracture system. The thin weathered mantles absorb rainfall infiltration and transmit it to deeper fracture system.

8



Koderma District Survey Report for Stone

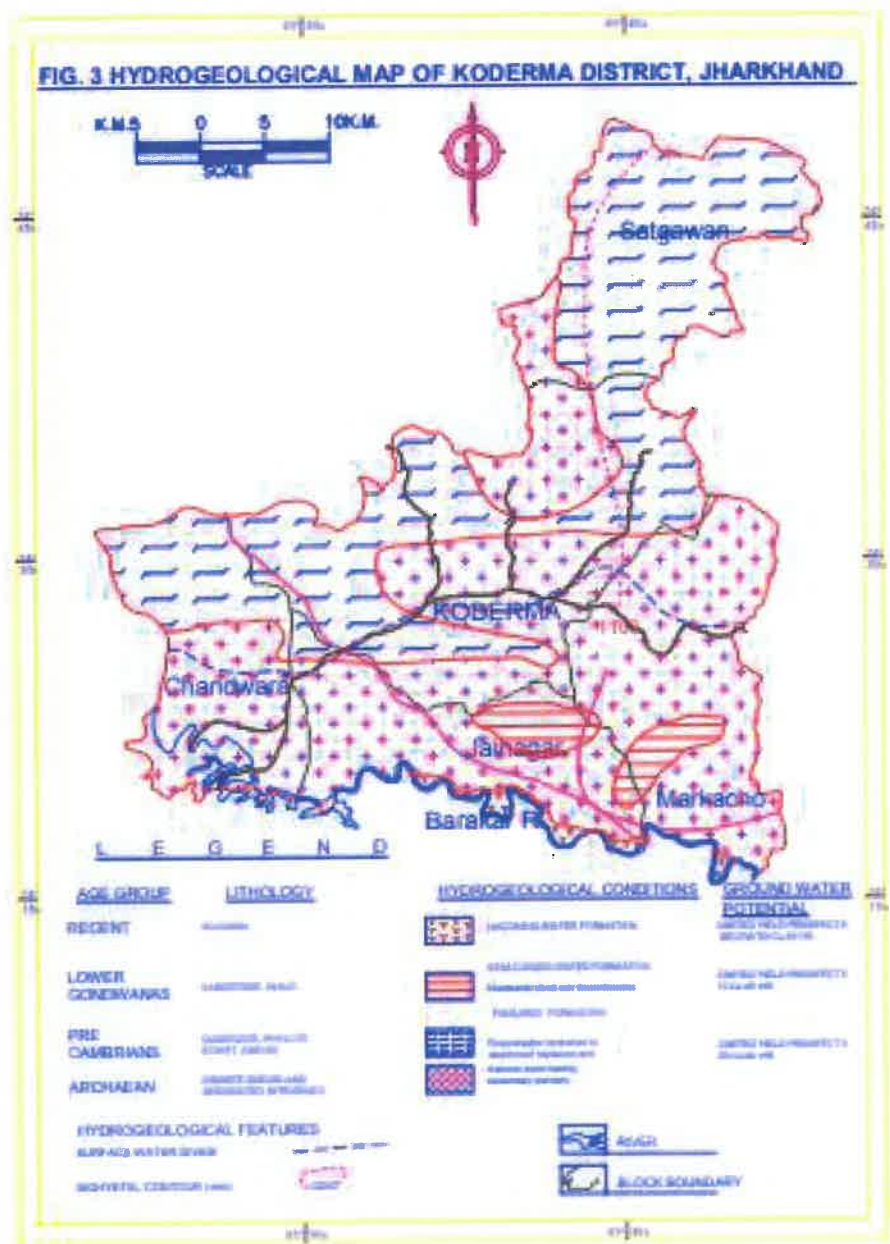


Figure 3 Hydrogeological Map of Koderma District (Source -CGWB)

2



## Koderma District Survey Report for Stone

### 7.4 Depth to Water Level

Central Ground Water Board has established network of observation wells for monitoring of groundwater level to know the behaviour of ground water regime in the district. There are seven monitoring stations which are monitored every year in January, May, August & November.

During pre-monsoon season the minimum and maximum water level were observed as 6.29 mbgl at Jainagar and 7.82 mbgl at Koderma respectively.

The water level during the post-monsoon season of the district ranges from 1.92 mbgl at Koderma to 4.18 mbgl at Satgawan respectively.

Table 5 Ground Water Level

| Sl. No. | District | Administrative Units | Ground water Assessment Sub-Unit | Rainfall (Actual 2019-20) (mm) | Rainfall (Normal) (mm) | Average Pre-monsoon Water level (mbgl) | Average Post-monsoon Water level (mbgl) | Average Water level Fluctuation (m) | Number of Ground Water Abstraction Structures for Irrigation (As per 5th MI Census) |     |     |
|---------|----------|----------------------|----------------------------------|--------------------------------|------------------------|----------------------------------------|-----------------------------------------|-------------------------------------|-------------------------------------------------------------------------------------|-----|-----|
|         |          |                      |                                  |                                |                        |                                        |                                         |                                     | DW                                                                                  | STW | DTW |
| 1       | Koderma  | Chandwara            | Non-Command                      | 859.40                         | 1115.90                | 7.56                                   | 4.64                                    | 2.92                                | 2027                                                                                | 2   | 3   |
| 2       | Koderma  | Domchanch            | Non-Command                      | 1207.80                        | 1115.90                | 7.18                                   | 4.82                                    | 2.36                                | 576                                                                                 | 0   | 0   |
| 3       | Koderma  | Jainagar             | Non-Command                      | 1100.40                        | 1115.90                | 6.29                                   | 3.63                                    | 2.66                                | 1210                                                                                | 13  | 4   |
| 4       | Koderma  | Koderma              | Non-Command                      | 1309.00                        | 1115.90                | 7.82                                   | 5.90                                    | 1.92                                | 424                                                                                 | 5   | 0   |
| 5       | Koderma  | Markachho            | Non-Command                      | 793.20                         | 1115.90                | 6.86                                   | 3.85                                    | 3.01                                | 218                                                                                 | 2   | 1   |
| 6       | Koderma  | Satgawan             | Non-Command                      | 1388.00                        | 1115.90                | 7.49                                   | 4.37                                    | 4.18                                | 310                                                                                 | 122 | 18  |

*[Signature]*



## Koderma District Survey Report for Stone

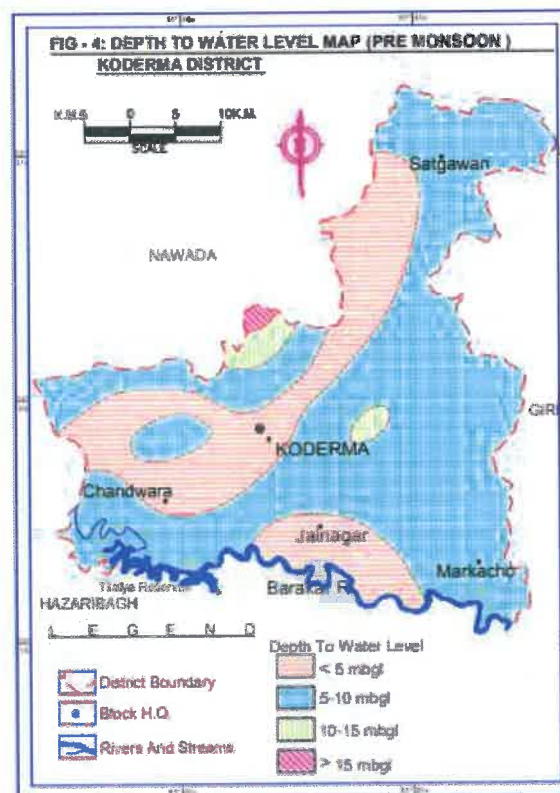


Figure 4 Pre-Monsoon Depth to Water Level (2012)



Figure 5 Post-Monsoon Depth to Water Level (2012)



## Koderma District Survey Report for Stone

### PRESENT SCENARIO

Depth of ground water table at different locations of six blocks of Koderma district have been recorded based on resistivity survey:

Table 6 Groundwater level at six blocks of koderma district

| Si. No. | Block     | Location               | mbgl  |
|---------|-----------|------------------------|-------|
| 1       | Koderma   | District Mining Office | 40-65 |
| 2       | Jainagar  | Dahuatola              | 69    |
| 3       | Domchanch | Raidih                 | 41    |
| 4       | Markacho  | Tolkhar                | 81    |
| 5       | Satgawan  | Block Office           | 65-80 |
| 6       | Chandwara | Tham                   | 40    |

Actual depth of GWT at certain location may vary from observed data due to geological formation at this location. In such cases, GWT may be measured where need is felt.

#### 7.5 Ground Water Resource

The Koderma district consisting of 6 blocks are having adequate ground water resources potential and only a small part of it, is being utilized. The total replenishable ground water resources is 9273.29 ha.m out of which 462.52 ha.m is left for natural discharge during non monsoon season leaving net ground water availability amounting to 8809.77 ha.m. The maximum ground water availability is in Koderma block. (2817.06 ha.m). 1278.54 ha-m has been allocated for meeting domestic and industrial requirement. The annual draft for irrigation purpose is only 1407.89 ha.m and existing ground water draft for domestic and industrial water supply has been assessed to be 849.21 ha.m. The total draft for all uses amounts to 2256.96 ha.m. The stage of ground water development in the district varies from 12.49% in Chandwara block to 38.90% in Jainagar block. The average stage of development of the district is 19.82%.



*[Handwritten signature]*



## Chapter - VIII Rainfall of the district and climatic condition;

Table 7 Average Monthly Rainfall in the District of Koderma (Unit - mm)

| 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 |
| 2016 | 10.3  | -51  | 0     | -100 | 4.1   | -69  | 0    | -100 | 33.7 | 18   | 81.3  | -53  |
| 2017 | 0.9   | -96  | 0     | -100 | 3.5   | -73  | 2.2  | -78  | 4.9  | -83  | 21.4  | -88  |
| 2018 | 0     | -100 | 0     | -100 | 0     | -100 | 16.3 | 63   | 40.3 | 41   | 48.8  | -72  |
| 2019 | 0     | -100 | 35.9  | 218  | 0.7   | -93  | 9.9  | -18  | 0    | -100 | 43    | -76  |
| 2020 | 13.3  | -17  | 8.7   | -23  | 74    | 625  | 27.2 | 125  | 58.1 | 57   | 185.2 | 4    |
| 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 |
| 2016 | 249.2 | -8   | 305.2 | 14   | 311.1 | 43   | 26.9 | -69  | 0    | -100 | 0     | -100 |
| 2017 | 472.7 | 75   | 199   | -26  | 101.4 | -53  | 44.7 | -48  | 0    | -100 | 0     | -100 |
| 2018 | 167.3 | -38  | 150.5 | -44  | 114.3 | -48  | 13.6 | -84  | 0    | -100 | 8.2   | 12   |
| 2019 | 307.7 | 22   | 193.3 | -15  | 356.9 | 63   | 71.7 | -23  | 0    | -100 | 16.3  | 88   |
| 2020 | 310.2 | 23   | 196.8 | -14  | 199.2 | -9   | 77.6 | -16  | 1.2  | -84  | 0.1   | -99  |

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

Source: Approved DSR (Sand)

## Koderma District Survey Report for Stone

### **Climatic Conditions in the District**

The climate of this district is similar to Hazaribagh district. On the whole the climate of this district is mild hot summer, cold winter and well distributed rainfall during southwest monsoon season. The year may be divided into four seasons. The cold season starts from the end of November and extends to the month of February. This is followed by the summer season, which continues to about the beginning of June, when the southwest monsoon arrives over the district. The period from June to September is the southwest monsoon season. The post monsoon months, October and November constitute a transition period from the monsoon to the winter conditions.

### **TEMPERATURE**

There is no meteorological observatory in the district. So, the description that follows is based on the records of the neighbouring Hazaribagh observatory. The cold season starts from the end of November when both day and night temperatures decrease rapidly with the advance of the season. January is the coldest month of the year with the mean maximum temperature at 22°C and the mean minimum temperature at 9°C. In winter months, during cold waves which affect the district in the wake of western disturbances which move across north India, the minimum temperature may go down to 2°C-3°C on individual days. Temperature begins to rise rapidly from March till first week of June. May is the hottest month with the mean maximum temperature at about 37°C and the mean minimum temperature at about 23°C. In latter part of the summer season i.e. May and June, the maximum temperature may sometimes reach about 45°C. The day temperature drops rapidly while the drop in night temperatures is comparatively low, with the advance of the southwest monsoon into the district from the middle of June. The day temperature begins to decrease while the drop in the night temperature is appreciable with the withdrawal of the monsoon by about first week of October.

### **HUMIDITY**

The relative humidity is generally high during the monsoon months at about 80%. It is comparatively less during rest of the year. The driest part of the year is the summer season, when humidity is less than 35% in the afternoon.

### **CLOUDINESS**

During the monsoon season the sky is heavily clouded or overcast. In the rest of the year the sky is clear or lightly clouded. Cloudiness is generally more in the afternoon.

### **WINDS**

Winds are generally light to moderate in the summer and monsoon season. During the period October to May, winds blow mostly from northwest direction. During the monsoon season, the winds are mostly from directions southwest or southeast in the morning and from northwest in the afternoon.

### **SPECIAL WEATHER PHENOMENA**

Storms and depressions originating in the Bay of Bengal during the post monsoon and southwest monsoon months move in a northwesterly direction towards the district or its neighbourhood causing widespread heavy rain and gusty winds. Dust storms and thunderstorms sometimes associated with squall occur occasionally during summer. But the highest incidence of thunderstorms is during the monsoon months. Fog occurs occasionally during the cold season.

**Source:** *Climate of Jharkhand, issued by Climatological Publication Section of Indian Meteorological Department, Government of Jharkhand*

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## Chapter - IX Details of the mining leases in the District

Table 8 Details of the mining leases in the District

| Sl. No. | Name of the Mineral | Name of the Lessee                                      | Address & Contact No. of Lessee                                                                                                                                                                                                                                                                                          | Mining lease Grant Order No. & date | Area of Mining lease (Acre) | Period of Mining lease (Initial) | Period of Mining lease (1st/2nd... renewal) | 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) |
|---------|---------------------|---------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------|----------------------------------|---------------------------------------------|------------------------------------------|------------------------------------------------------------------|----------------------|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------|
| 1       | पत्थर               | भेसर्स मारुती स्टोन वर्क्स                              | पार्ट- 1. श्री सुरेश चुरी, पिता- स्व. केदार चुरी, ग्राम- नवलपारी, पो- नवलपारी, जिला- कोडरमा, पो- फुलवारी, ग्राम- देवेन्द्र मो. ता. हता, ग्राम- फुलवारी, पो- फुलवारी, ग्राम- नवलपारी, जिला- कोडरमा एवं 3. श्री कुमार गौतम, पिता- श्री रामेश्वर सिंह, महावीर मुहल्ला, ग्राम-पो- कोडरमा, ग्राम- कोडरमा, जिला- कोडरमा        | 1222/M, Dated - 26/06/2023          | 0.79 एकड़                   | 22.06.2023 to 21.06.2033         |                                             |                                          | Working                                                          | Non-Captive          | Yes, EC/SEIAA/2023-24/2829/2023/108, Dated - 07/06/2023                               | Latitude - 24°26'32.09"N to 24°26'35.07"N<br>Longitude - 85°45'33.91"E to 85°45'36.20"E | Opencast                                  |
| 2       | पत्थर               | 1 श्री महावीर यादव,<br>2. श्री सुरेन्द्र प्रसाद गुप्ता, | पिता- स्व. मिथारी यादव, ग.म- खरखार, पो- नवलपारी, ग्राम- नवलपारी, जिला- कोडरमा एवं 2. पिता- स्व. चिन्तामण साय, ग्राम- नवादा, पो- फुलवारी, जिला- कोडरमा                                                                                                                                                                    | 1229/M, Dated - 26/06/2023          | 1.08 एकड़                   | 22.06.2023 to 21.06.2033         |                                             |                                          | Working                                                          | Non-Captive          | Yes, EC/SEIAA/2023-24/2828/2023/139, Dated - 09/06/2023                               | Latitude - 24°26'54.72"N to 24°26'58.00"N<br>Longitude - 85°44'45.76"E to 85°44'50.66"E | Opencast                                  |
| 3       |                     | भेसर्स महादो स्टोन वर्क्स                               | पार्ट- 1. श्री सुरेश प्रसाद यादव, पिता- स्व. भुवन महतो, ग्राम- नवादा, पो- फुलवारी, ग्राम- नवलपारी, जिला- कोडरमा, 2. श्री अमित गौतम, पिता- श्री बालकृष्ण मेहता, ग.म- नवादी, पो-ग्राम- डेमवाँच, जिला- कोडरमा एवं 3. श्री सुरेन्द्र प्रसाद गुप्ता, पिता- स्व. साय, ग्राम- नवादा, पो- फुलवारी, ग्राम- नवलपारी, जिला- कोडरमा। | 1214/M, Dated - 23/06/2023          | 1.89 एकड़                   | 22.06.2023 to 21.06.2033         |                                             |                                          | Working                                                          | Non-Captive          | Yes, EC/SEIAA/2023-24/2841/2023/125, Dated - 05/06/2023                               | Latitude - 24°27'00.34"N to 24°27'04.63"N<br>Longitude - 85°44'41.02"E to 85°44'38.08"E | Opencast                                  |
| 4       | पत्थर               | रामजानकी स्टोन मर्चन्ट,                                 | पिता- श्री निरपत साय, पिता- स्व. साय, ग्राम- नवादा, पो- फुलवारी, ग्राम- नवलपारी, जिला- कोडरमा                                                                                                                                                                                                                            | 1819/M, Dated - 23/09/2023          | 2.68 एकड़                   | 17.09.2023 to 16.09.2033         |                                             |                                          | Working                                                          | Non-Captive          | Yes, EC/SEIAA/2023-24/2888/2023/224, Dated -                                          | Latitude - 24°27'13.51"N to 24°27'18.97"N<br>Longitude -                                | Opencast                                  |

# Koderma District Survey Report for Stone

|    |      |                                                     |                                                                                                                                                                                                                                                       |                                  |           |                                |         |                 |                                                                        |                                                                                                       |          |
|----|------|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------|--------------------------------|---------|-----------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|----------|
| 5  | पथार | पुरानापुर<br>स्टोन माईन्स                           | पाटो- 1. सो अलाहदीन,<br>पिता- सगु करीम निवाँ,<br>ग्राम- पुरानापुर, पो-<br>खेष्मी, थाना- नवलपारी,<br>जिला- कोडरमा, 2. श्री<br>महिन्द्र महेंद्र, पिता- श्री<br>सही मेहता, ग्राम-<br>पुलवरिया, थाना-<br>पुलवरिया, थाना-<br>नवलपारी, जिला- कोडरमा         | 100/M,<br>Dated -<br>17/01/2024  | 4.50 एकड़ | 20.12.2023<br>to<br>19.12.2033 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/3049/2023/4<br>55, Dated -<br>02/11/2023  | Latitude -<br>24°24'18.40" N to<br>24°24'33.36"N<br>Longitude -<br>85°47'12.81" E to<br>85°47'30.06"E | Opencast |
| 6  | पथार | Vinayak<br>Stone<br>Quarry                          | पाटो 0- 1. श्री अमोक्त<br>कुमार गुप्ता, 2. श्री आर्च<br>कुमार पंकज, पिता- सगु<br>महावीर प्रसाद साव, 3. श्री<br>रंजित कुमार, पिता- श्री<br>बेजनाथ साव, टीना-<br>ग्रामम-पो+थाना- डोमवाँच,<br>जिला- कोडरमा                                               | 275/M,<br>Dated -<br>03/03/2016  | 4.50 एकड़ | 10.03.2026 to<br>09.03.2036    | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2015-<br>16/1555/2015/22<br>65, Dated -<br>30/12/2015 | Latitude -<br>24°27'7.43"N to<br>24°27'1.29"N<br>Longitude -<br>85°42'13.68"E to<br>85°42' 7.89"E     | Opencast |
| 7  | पथार | 1. श्री तिलेश<br>रंजन एवं<br>2. श्री राजेश<br>रोषन, | दोनों पिता- श्री सत्यु<br>प्रसाद मेहता, ग्राम-पो-<br>बेहराडीह, जिला- कोडरमा                                                                                                                                                                           | 1587/M,<br>Dated -<br>08/10/2022 | 2.25 एकड़ | Upto<br>20.10.2032             | Working | Non-<br>Captive | 1561, Dated -<br>09/09/2015                                            | Latitude -<br>24°27'19.7"N to<br>24°27'22.6"N<br>Longitude -<br>85°41'44.1"E to<br>85°41' 52.6"E      | Opencast |
| 8  | पथार | मेसर्स मों<br>जगदम्बा<br>स्टोन वर्क्स               | पाटो- श्री सत्यु कुमार<br>मेहता, पिता- श्री युगल<br>किशोर मेहता, ग्राम-<br>लंगरापीप, पो- डोमवाँच,<br>थाना- डोमवाँच जिला-<br>कोडरमा                                                                                                                    | 368/M,<br>Dated -<br>16/02/2023  | 2.85 एकड़ | 23.02.2023<br>to<br>22.02.2033 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2022-<br>23/2712/2023/4<br>04, Dated -<br>01/02/2023  | Latitude -<br>24°27'35.95"N to<br>24°27'40.05"N<br>Longitude -<br>85°41' 33.62"E to<br>85°41'33.62"E  | Opencast |
| 9  | पथार | मेसर्स जय<br>मीम स्टोन<br>वर्क्स                    | पाटो- श्री असीब जोषी,<br>पिता- सगु धर्म वन्द्योशी,<br>साकिन झंझा चौक, आनन्द<br>बिहार के पास,<br>धुमरीतिलैया, पो-<br>धुमरीतिलैया, थाना-<br>तिलैया, जिला- कोडरमा                                                                                        | 1916/M,<br>Dated -<br>09/10/2023 | 3.70 एकड़ | 23.09.2023<br>to<br>16.09.2033 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2883/2023/21<br>8, Dated -<br>14/08/2023  | Latitude -<br>24°27' 08.41"N to<br>24°27' 14.64"N<br>Longitude -<br>85°42'15.84"E to<br>85°42'21.06"E | Opencast |
| 10 | पथार | मेसर्स जय मों<br>चवालनी<br>स्टोन वर्क्स             | पाटो- 1. श्री मुकेश कुमार,<br>पिता- श्री लक्ष्मण प्रसाद<br>मेहता, 2. श्री युवराज मेहता,<br>पिता- सगु देगलाल मेहता<br>एवं 3. श्री हिन्दु कुमार,<br>पिता- श्री अर्जुन मेहता,<br>टीना- ग्राम- खोती महुगा,<br>पो- डोमवाँच, थाना-<br>डोमवाँच, जिला- कोडरमा | 456/M,<br>Dated -<br>11/03/2024  | 2.38 एकड़ | 26.02.2024<br>to<br>25.02.2034 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2891/2023/22<br>6, Dated -<br>14/08/2023  | Latitude -<br>24°27'17.00" N to<br>24°27'21.20"N<br>Longitude -<br>85°42'13.20"E to<br>85°42'11.10" E | Opencast |
| 11 | पथार | श्री मनोज<br>कुमार मेहता                            | पिता- सगु युदुपन्न<br>मेहता, ग्राम- बेहराडीह,<br>पो- बेहराडीह, थाना-<br>डोमवाँच, जिला- कोडरमा                                                                                                                                                         | 455/M,<br>Dated -<br>11/03/2024  | 3.88 एकड़ | 26.02.2024<br>to<br>25.02.2034 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2884/2023/22<br>3, Dated -<br>14/08/2023  | Latitude -<br>24°26'43.72"N to<br>24°26'50.69"N<br>Longitude -<br>85°42'31.84"E to<br>85°42' 39.13"E  | Opencast |

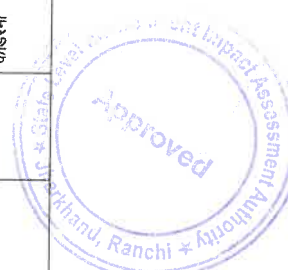


# Koderma District Survey Report for Stone

|    |     |                                               |                                                                                                                                                                                                                                                                                                                                                                                   |                                  |           |                                |  |  |         |                 |                                                                       |                                                                                                          |          |
|----|-----|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------|--------------------------------|--|--|---------|-----------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------|
| 12 | पथर | झारखण्ड<br>स्टोन माईन्स,<br>पथर               | 10- श्री संजय कुमार राय,<br>पिता- स्व0 तारणी प्रसाद<br>राय, ग्राम- मसनोडीह,<br>पो0- मसनोडीह, थाना-<br>डोमचाँच, जिला- कोडरमा।                                                                                                                                                                                                                                                      | 366/M,<br>Dated -<br>16/02/2023  | 3.40 एकड़ | 23.02.2023<br>to<br>22.02.2023 |  |  | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2022-<br>23/2726/2023/3<br>97 Dated<br>01/02/2023    | Latitude -<br>24°27'22.32"N to<br>24°27'26.93"N<br>Longitude -<br>85°44'15.38"E to<br>85°44'11.85"E      | Opencast |
| 13 | पथर | झारखण्ड<br>स्टोन माईन्स,<br>पथर               | प्र0- श्री अरुणोदय कुमार,<br>पिता- स्व0 नरेन्द्र कुमार<br>सिंह, ग्राम-पो0 मसनोडीह,<br>थाना- डोमचाँच, जिला-<br>कोडरमा                                                                                                                                                                                                                                                              | 1226/M,<br>Dated -<br>26/06/2023 | 3.00 एकड़ | 23.06.2023<br>to<br>22.06.2023 |  |  | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2846/2023/12<br>3, Dated -<br>08/06/2023 | Latitude -<br>24°27'24.78"N to<br>24°27'29.49"N<br>Longitude -<br>85°44'03.47"E to<br>85°44'10.01"E      | Opencast |
| 14 | पथर | मसरी न्यू<br>झारखण्ड<br>स्टोन माईन्स,<br>पथर  | पा20- 1. श्री संजय कुमार<br>राय, पिता- स्व0 तारणी<br>प्रसाद राय, ग्राम-<br>मसनोडीह, पो0- मसनोडीह,<br>थाना- डोमचाँच, जिला-<br>कोडरमा एवं 2. श्री नारायण<br>साय, पिता- श्री राम कृष्ण<br>मुशरी साय, ग्राम-<br>मुशरी साय, ग्राम-<br>पुनवाडीह, पो0- फुलवरिया,<br>थाना- नवलपारी, जिला-<br>कोडरमा।                                                                                      | 1228/M,<br>Dated -<br>26/06/2023 | 1.00 एकड़ | 22.06.2023<br>to<br>21.06.2023 |  |  | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2838/2023/14<br>0, Dated -<br>09/06/2023 | Latitude -<br>24°27' 34.71"N to<br>24°27'38.60"N<br>Longitude -<br>85°43'49.84" E to<br>85°43'52.33"E    | Opencast |
| 15 | पथर | पवित्र ट्रैडिंग<br>कम्पनी<br>पथर              | प्र0- श्री राजकुमार दास,<br>पिता- स्व0 पवित्र किशोर<br>दास, साकिन- 204,<br>सोनाली अपार्टमेंट नं०,<br>तेल्ला, धनुमान नगर, बुढी<br>मोह, बरियातू, सैकी<br>कोडरमा।                                                                                                                                                                                                                    | 1436/M,<br>Dated -<br>25/07/2023 | 1.90 एकड़ | 24.07.2023<br>to<br>23.07.2023 |  |  | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2862/2023/15<br>9, Dated -<br>08/07/2023 | Latitude -<br>24°27'11.80"N to<br>24°27'15.29"N<br>Longitude -<br>85°43'29.10" E to<br>85°43'33.92"E     | Opencast |
| 16 | पथर | गौरा पथर<br>माईन्स,<br>पथर                    | पाटनर 1. श्री यमुना प्रसाद<br>राणा, पिता- स्व0 भातु<br>राणा, 2. श्री प्रयाग गोप,<br>पिता- स्व0 भुनखर महतो,<br>दोनो ग्राम- पुनवाडीह,<br>पो0- फुलवरिया, थाना-<br>नवलपारी, जिला- कोडरमा<br>एवं 3. श्री द्वारिका राणा,<br>पिता- स्व0 टटल राणा,<br>ग्राम- बेहराडीह, पो0-<br>बेहराडीह, थाना- डोमचाँच,<br>जिला- कोडरमा।                                                                  | 448/M,<br>Dated -<br>07/03/2024  | 1.90 एकड़ | 01.03.2024<br>to<br>28.02.2024 |  |  | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2882/2023/22<br>7, Dated -<br>14/08/2023 | Latitude -<br>24°27'50.92"N to<br>24°27'53.06"N<br>Longitude -<br>85°43' 27.22"E to<br>85°43'33.97"E     | Opencast |
| 17 | पथर | मेसर्स मों<br>चंचालनी<br>स्टोन वर्क्स,<br>पथर | पाट 0- 1. श्री केदार सिंह,<br>पिता- फालो सिंह, ग्राम-<br>पुस्तानगर (खटौलिया),<br>पो0- खेपमी, थाना-<br>नवलपारी, जिला- कोडरमा<br>2. श्री कुमार गौख, पिता-<br>श्री रामधर सिंह, ग्राम-<br>महावीर मुहला,<br>पो0+थाना- कोडरमा,<br>जिला- कोडरमा एवं 3. श्री<br>महेश प्रसाद मेहता, पिता-<br>स्व0 जगदीश प्रसाद मेहता,<br>ग्राम- फुलवरिया, पो0-<br>फुलवरिया, थाना-<br>नवलपारी, जिला- कोडरमा | 1225/M,<br>Dated -<br>26/06/2023 | 2.07 एकड़ | 22.06.2023<br>to<br>21.06.2023 |  |  | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2823/2023/13<br>8, Dated -<br>09/06/2023 | Latitude -<br>24°24'00.56" N to<br>24°24'03.68" N<br>Longitude -<br>85°47'55.37" E to<br>85°48' 01.66" E | Opencast |

# Koderma District Survey Report for Stone

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| 18 | पथार<br>मेसर्स न्यू<br>झारखण्ड<br>स्टोन माईन्स                       | पाटो- 1. श्री सजय कुमार<br>राय, पिता- स्व. तारणी<br>प्रसाद राय, ग्राम-<br>मसानोडीह, पो-<br>मसानोडीह, जिला-<br>धाना- डोमचौक, जिला-<br>कोडरमा एवं 2. श्री नारायण<br>साय, पिता- श्री राम कृष्ण<br>मुसुरी साय, ग्राम-<br>पुरनाडीह, पो- फुलवरिया,<br>धाना- नवलपारी, जिला-<br>कोडरमा | 1227/M,<br>Dated -<br>26/06/2023 | 2.70 एकड़  | 23.06.2023<br>to<br>22.06.2033 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2843/2023/10<br>6, Dated -<br>07/06/2023 | Latitude -<br>24°27'01.73"N to<br>24°27'05.25"N<br>Longitude -<br>85°43'31.83"E to<br>85°43'26.60"E | Opencast |
| 19 | पथार<br>अंजनी सुत<br>माईनिंग एवं<br>मिनरल वर्क्स<br>प्राइवेट लिमिटेड | पाटन- 1. श्री प्रदीप<br>कुमार कोडिया, पिता- स्व.0<br>सतनारायण कोडिया, डै<br>रोड, पो- झुमरीतिलैया,<br>धाना- तिलैया, जिला-<br>कोडरमा, 2. श्री संतोष<br>मेहता, पिता- स्व. चमन<br>मेहता, ग्राम- फुलवरिया,<br>पो- फुलवरिया, धाना-<br>नवलपारी, जिला- कोडरमा                          | 2182/M,<br>Dated -<br>23/11/2023 | 3.16 एकड़  | 11.11.2023<br>to<br>10.11.2033 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2881/2023/22<br>1, Dated -<br>14/08/2023 | Latitude -<br>24°23'52.77"N to<br>24°23'58.18"N<br>Longitude -<br>85°47'58.42"E to<br>85°48'07.30"E | Opencast |
| 20 | पथार<br>श्रीमती विमली<br>देवी,                                       | पाटन- 1. श्री रामचन्द्र<br>ग्राम- पुरनाडीह, पो-<br>फुलवरिया, धाना-<br>नवलपारी, जिला- कोडरमा                                                                                                                                                                                    | 1199/M,<br>Dated -<br>21/06/2023 | 6.88 एकड़  | Upto<br>26.12.2027             | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2014-<br>15/524/2014/12<br>04, Dated -<br>07/08/2015 | Latitude -<br>24°28'03.66"N to<br>24°28'13.57"N<br>Longitude -<br>85°43'06.45"E to<br>85°43'22.15"E | Opencast |
| 21 | पथार<br>मेसर्स पक्कूल<br>मिनरल्स                                     | पाटो- 1. श्री रामचन्द्र<br>मेहता, पिता- श्री छोटेलाल<br>मेहता, ग्राम- बीघा, पो-<br>फुलवरिया, जिला-<br>कोडरमा, 2. श्री उदय<br>कुमार, पिता- स्व. शिवदानी<br>सिंह, ग्राम- एकनाए, पो-<br>धनवा, धाना- डिबुआ,<br>जिला- नवादा                                                         | 1253/M,<br>Dated -<br>01/08/2022 | 1.71 एकड़  | 02.09.2022<br>to<br>01.09.2032 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2022-<br>23/2571/2022/14<br>9 Dated -<br>18/06/2022  | Latitude -<br>24°23'10.30"N to<br>24°23'13.60"N<br>Longitude -<br>85°24'50.06"E to<br>85°24'56.84"E | Opencast |
| 22 | पथार<br>मेसर्स गणपति<br>मिनरल्स,                                     | पाटो- 1. श्री रामचन्द्र<br>मेहता, पिता- श्री छोटेलाल<br>मेहता, ग्राम- बीघा, पो-<br>फुलवरिया, जिला-<br>कोडरमा, 2. श्री केदन<br>आनन्द, पिता- स्व. बनवारी<br>लाल, ग्राम- पो-<br>झुमरीतिलैया, जिला-<br>कोडरमा, 3. श्री अर्पणा देवी,<br>पति- श्री महेश राय,                         | 1254/M,<br>Dated -<br>01/08/2022 | 0.92 एकड़  | 02.09.2022<br>to<br>01.09.2032 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2022-<br>23/2572/2022/1<br>54 Dated -<br>18/06/2022  | Latitude -<br>24°24'10.58"N to<br>24°24'13.83"N<br>Longitude -<br>85°24'56.49"E to<br>85°24'59.38"E | Opencast |
| 23 | पथार<br>मेसर्स आनन्द<br>माईन्स एण्ड<br>मिनरल्स,                      | प्रो- श्री आनन्द राजेश्<br>पिता- श्री कैदन आनन्द,<br>ग्राम-पो- झुमरीतिलैया,<br>धाना- तिलैया, जिला-<br>कोडरमा                                                                                                                                                                   | 828, Dated<br>-<br>27/04/2023    | 1.288 एकड़ | 06.05.2023<br>to<br>05.05.2033 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2022-<br>23/2787/2023/17,<br>Dated -<br>12/04/2023   | Latitude -<br>24°24'7.28"N to<br>24°24'12.64"N<br>Longitude -<br>85°24'53.48"E to<br>85°24'56.86"E  | Opencast |





# Koderma District Survey Report for Stone

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| 24 | पथर | सिव स्टोन<br>माईनिंग                   | 1. श्री संतोष मेहता, पिता-<br>श्री वमन मेहता, ग्राम-<br>फुलवसिया, पो-<br>फुलवसिया, थाना-<br>नवलपारी, जिला- कोडरमा,<br>2. श्री मनोज कुमार, पिता-<br>श्री महेन्द्र प्रसाद वर्मा, ग्र<br>म- गिरिडीह रोड, पो-<br>डोमचौच, थाना- डोमचौच,<br>जिला- कोडरमा, 3. श्री<br>सत्यनन्द शर्मा, पिता- श्री<br>कपिलदेव शर्मा, ग्राम-<br>कोटियाखार, पो+थाना-<br>डोमचौच, जिला- कोडरमा<br>एवं 4. श्री सारु सागर,<br>पिता- श्री अंबिका प्रसाद<br>यादव, ग्राम- महथडीह,<br>पो+थाना- डोमचौच,<br>कोडरमा। | 2.65 एकड़ | 23.06.2023<br>to<br>22.06.2033 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2824/2023/13<br>7, Dated -<br>09/06/2023 | Latitude -<br>24°23'35.89"N to<br>24°23'42.15"N<br>Longitude -<br>85°48'17.85"E to<br>85°48'25.40"E | Opencast |
| 25 | पथर | मेसर्स मों दुर्गा<br>स्टोन विक्स       | पाटो- 1. श्री देवेन्द्र मेहता,<br>पिता-स्वो यदुनन्द मेहता,<br>2. श्री संतोष मेहता, पिता-<br>स्वो वमन मेहता, दोनों<br>ग्राम+पो- फुलवसिया,<br>थाना- नवलपारी, जिला-<br>कोडरमा एवं 3. श्री बासुदेव<br>मेहता, पिता- स्वो बट्टी म<br>हता, ग्राम- बीघा, पो-<br>फुलवसिया, थाना-<br>नवलपारी, जिला- कोडरमा                                                                                                                                                                               | 7.38 एकड़ | 23.06.2023<br>to<br>22.06.2033 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2827/2023/1<br>11 Dated -<br>07/06/2023  | Latitude -<br>24°20'14.18"N to<br>24°20'22.20"N<br>Longitude -<br>85°50'35.40"E to<br>85°50'44.93"E | Opencast |
|    | पथर | मेसर्स शिव<br>पार्वती स्टोन<br>क्वारी, | 1. श्री नकुल मंडल, पिता-<br>श्री फुलवन्द मंडल, ग्राम-<br>पंचाबा, पो- महरामो,<br>थाना- सरीया, गिरिडीह 2.<br>श्री सुरज कुमार, पिता- श्री<br>राम किशोर मेहता, ग्राम-<br>नावाडीह, पो- बेहराडीह,<br>थाना- डोमचौच, कोडरमा,<br>3. श्री राजनिधि सिंह,<br>पिता- श्री इन्दजीत सिंह,<br>ग्राम- देतौर, पो-<br>बखियापुर, थाना-<br>बखियापुर, जिला- पटना<br>(बिहार) एवं 4. श्री अखिल<br>मंडल, पिता- श्री मोलाल<br>मंडल, ग्राम-<br>औरगाँव, पो- महरामो,<br>थाना- सरीया, गिरिडीह                 | 2.92 एकड़ | 17.07.2023<br>to<br>16.07.2033 | Working | Non-<br>Captive | Yes,<br>EC/SEIAA/2023-<br>24/2863/2023/17<br>6, Dated -<br>10/07/2023 | Latitude -<br>24°20'34.40"N to<br>24°20'41.34"N<br>Longitude -<br>85°48'24.29"E to<br>85°48'28.92"E | Opencast |



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# Koderma District Survey Report for Stone

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|----|-------|---------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|--------------------------|---------|-------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------|----------|
| 27 | पत्थर | मेसर्स मों तारा स्टीन वर्क्स,                                       | पार्टनर- 1. श्री नकुल मंडल, पिता- श्री कुलवन्द मंडल, ग्राम- पचवा, पो-0- महरामो, थाना- सरैया, गिरिडीह, 2. श्री सुरज कुमार, पिता- श्री राम किशोर मेहता, ग्राम- नाराडीह, पो-0- बेहराडीह, थाना- डोमचौच, कोडरमा, 3. श्री राजनिति सिंह, पिता- श्री इन्दजीत सिंह, ग्राम- देदौर, पो-0- बखियापुर, थाना- बखियापुर, जिला- पटना (बिहार) एव 4. श्री अखिलेश मंडल, पिता- श्री मोलाल मंडल, ग्राम- औराटांड, पो-0- मन्दरामो, थाना- सरैया, गिरिडीह | 1400/M, Dated - 20/07/2023 | 8.53 एकड़ | 10.07.2016 to 09.07.2026 | Working | Non-Captive | Yes, EC/SEIAA/2023-24/2861/2023/178 Dated - 10/July/2023 | Latitude - 24°20'50.18"N to 24°20'55.08"N<br>Longitude - 85°48'48.48"E to 85°48'55.40"E   | Opencast |
| 28 | पत्थर | मेसर्स मालती मिनरल्स,                                               | पार्ट-0- श्री राम प्रसाद मेहता, पिता- स्व० जगदीश च.साद मेहता, ग.एम+पो-0- फुलवरिया, जिला- कोडरमा                                                                                                                                                                                                                                                                                                                                 | 685/M, Dated - 01/07/2016  | 6.30 एकड़ | 12.06.2019 to 11.06.2029 | Working | Non-Captive | Yes, EC/SEIAA/2015-16/1288/2015/2087, Dated - 15/12/2015 | Latitude - 24°23'5.58" N to 24°23'6.88" N<br>Longitude - 85°48'13.14" E to 85°49'3.69" E  | Opencast |
| 29 | पत्थर | मेसर्स जय माता रानी मिनरल्स                                         | पार्ट-0- 1. श्री मयंक , माता- श्रीमती अन्नपूर्णा देवी, 4 ए० / बी० रोड, रोड न 0- 05, बिरसा चौक, डोरण्डा, सैवी, 2. श्री किशोर कुमार, पिता- श्री राम विष्णु सिंह, गौंधी स्कुल रोड, कुमरीतिलैया, जिला- कोडरमा                                                                                                                                                                                                                       | 753/M, Dated - 14/06/2019  | 1.92 एकड़ | 27.01.2023 to 26.01.2033 | Working | Non-Captive | Yes, 04, Dated - 08/01/2018                              | Latitude - 24°21'33.61"N to 24°21' 39.54"N<br>Longitude - 85°35' 25.22"E to 85°35'34.53"E | Opencast |
| 30 | पत्थर | 1. श्री रवि कुमार निराला<br>2. श्री अशोक यादव<br>3. श्री गीतम कुमार | पिता- स्व० वितरलन यादव, ग्राम- चटकरी, पो-0- चलकुषा, जिला- हजारीबाग, 2.पिता- श्री गोपाल यादव, ग्राम- इन्दरवा, पो-0- इन्दरवा, जिला- कोडरमा एव 3. पिता- श्री सुरेन्द्र प्रसाद, छाबड़ा गली, यार्ड नं० - 16, नजदीक सामन्ता पेट्रोल पंप, पो० कुमरीतिलैया, जिला- कोडरमा                                                                                                                                                                | 127/M, Dated - 20/01/2023  | 2.78 एकड़ | 07.03.2024 to 06.03.2034 | Working | Non-Captive | Yes, EC/SEIAA/2022-23/2669/2011/325, Dated - 28/12/2022  | Latitude - 24°21'34.58"N to 24°21'37.78"N<br>Longitude - 85°35'22.92"E to 85°35'26.87"E   | Opencast |
| 31 | पत्थर | मेसर्स ओम साई स्टीन,                                                | 1. श्री दिलीप यादव, पिता- स्व० लखू यादव, ग्राम+पो-0-                                                                                                                                                                                                                                                                                                                                                                            | 456/M, Dated - 11/03/2024  | 1.08 एकड़ | 14.03.2024 to 13.03.2034 | Working | Non-Captive |                                                          | Latitude - 24°21' 30.17"N to 24°21'35.26"N<br>Longitude - 85°35'31.21"E to 85°35' 39.73"E | Opencast |
| 32 | पत्थर | जय मों भद्रकाली स्टीन वर्क्स                                        | पार्टनर- 1. श्री ईश्वर साव, पिता- स्व० राम किशुन साव, ग्राम- पुरनाडीह, पो-0- फुलवरिया, थाना- नवलसाही, जिला-                                                                                                                                                                                                                                                                                                                     |                            |           |                          | Working | Non-Captive |                                                          | Latitude - 24°27'29.50"N to 24°27'32.91"N<br>Longitude - 85°43'57.82"E to                 | Opencast |

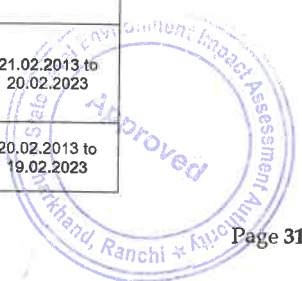
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|    |       |                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |           |                          |  |  |  |         |             |                                                       |                                                                                      |              |
|----|-------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------|--|--|--|---------|-------------|-------------------------------------------------------|--------------------------------------------------------------------------------------|--------------|
| 33 | पत्थर | पवित्र ब्याउरी एक्सप्लोरिब प.10 लि0                                                                               | कोडरमा, 2. श्री उमाकांत राणा, पिता- स्व0 रामचन्द्र राणा, बाईपास रोड, पो0- झुमरीतिलैया, थाना- तिलैया, जिला- कोडरमा, 3. श्री संजय यादव, पिता- श्री सस्यु यादव, ग्राम- पुरनाडीह, पो0- फुलवरिया, थाना- नवलसाही, जिला- कोडरमा, 4. श्री जमुना प्रसाद यादव, पिता- श्री त्रिलोकी महतो, ग्राम- पुरनाडीह, पो0- फुलवरिया, थाना- नवलसाही, जिला- कोडरमा, एवं 5. श्री दशरथ यादव, पिता- श्री तुलसी महतो, ग्राम- पुरनाडीह, पो0- फुलवरिया, थाना- नवलसाही, जिला- कोडरमा | 5.44 एकड़ | 17.12.2022 to 16.12.2032 |  |  |  | Working | Non-Captive | Yes, EC/SEIAA/2022-23/2632/2022/23 Dated - 09/09/2022 | Latitude - 24°22'16.21"N to 24°22'22.96"N Longitude - 85°40'0.67"E to 85°41'7.55"E   | 85°44'2.57"E |
| 34 | पत्थर | श्री उदय मेहता, पिता- श्री राजकिशोर मेहता                                                                         | ग्राम- सिमरिया, पो0- मसनोडीह, थाना- डोमचौच, जिला- कोडरमा                                                                                                                                                                                                                                                                                                                                                                                              | 6.38 एकड़ | 18.07.2024 to 17.07.2034 |  |  |  | Working | Non-Captive |                                                       |                                                                                      | Opencast     |
| 35 | पत्थर | M/s Hill View Mining प्रो0- श्री निलेश रंजन, पिता- श्री सस्यु प्रसाद मेहता                                        | ग्राम- मेहराडीह, पो0- मेहराडीह, थाना- डोमचौच, जिला- कोडरमा                                                                                                                                                                                                                                                                                                                                                                                            | 1.45 एकड़ | 18.07.2024 to 17.07.2034 |  |  |  | Working | Non-Captive |                                                       | Latitude - 24°27'54.51"N to 24°27'57.80"N Longitude - 85°43'23.91"E to 85°43'26.41"E | Opencast     |
| 36 | पत्थर | प्रो0- श्री संजय कुमार राय, पिता- स्व0 तारणी प्रसाद राय, ग्राम- मसनोडीह, पो0- मसनोडीह, थाना- डोमचौच, जिला- कोडरमा | प्रो0- श्री संजय कुमार राय, पिता- स्व0 तारणी प्रसाद राय, ग्राम- मसनोडीह, थाना- डोमचौच, जिला- कोडरमा                                                                                                                                                                                                                                                                                                                                                   | 2.68 एकड़ | 21.01.2023 to 20.01.2033 |  |  |  | Working | Non-Captive | Yes, EC/SEIAA/2015-16/1567/2015/22 Dated - 30/12/2015 | Latitude - 24°26' 31"N to 24°26' 33"N Longitude - 85°45'27.00"E to 85°45' 28.5"E     | Opencast     |
| 37 | पत्थर | श्री सनाथ सिंह                                                                                                    | पिता- स्व0 त्रिलोकी नाथ सिंह, ग्राम-पो0- मसनोडीह, जिला- कोडरमा I                                                                                                                                                                                                                                                                                                                                                                                      | 2.35 एकड़ | 07.04.2023 to 06.04.2033 |  |  |  | Working | Non-Captive | Yes, EC/SEIAA/2015-16/821/2015/182 Dated - 23.11.2015 | Latitude - 24°27' 41.5"N Longitude - 85°43'38.3"E                                    | Opencast     |

Table 9 Details of earlier running/existing mining leases in the district

अप्रैल 2022 से अब तक समाप्त हुए पत्थर लघु खनन पट्टों अद्यतन सूची।

| क्र० | खनिज पट्टेधारी का नाम एवं पता                                                                                                                                                                         | पट्टा क्षेत्र का विवरणी                                                                             | खनन पट्टा की समाप्ति की तिथि |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|------------------------------|
| 1    | 2                                                                                                                                                                                                     | 3                                                                                                   | 4                            |
| 1    | मेसर्स पवित्र धरती स्टोन क्वारी वर्क्स, प्रो०- श्री रंजीत कुमार राय, पिता- स्व० प्रफुल्ल मोहन राय, एवं ग्राम- चाराडीह, पो०- करमा, जिला- कोडरमा।                                                       | मौजा- थाम, खाता सं०- 127 प्लॉट सं०- 4817 अंश, रकवा- 3.50 एकड़                                       | 03.04.2012 to 02.04.2022     |
| 2    | श्री जगदीश कुमार भारती, पिता- श्री प्रकाश मेहता, ग्राम- नावाडीह, पो०- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा।                                                                                           | मौजा- खरखार, प्लॉट सं०- 2916 अंश, रकवा- 1.10 एकड़                                                   | Upto 24.06.2022              |
| 3    | मेसर्स राष्ट्रीय स्टोन चिप्स, प्रो०- श्री सम्राट सिंह, ग्राम- थाम, पो०- डाबथाम, जिला- कोडरमा।                                                                                                         | मौजा- थाम, खाता सं०- 127 प्लॉट सं०- 4617 अंश, रकवा- 3.15 एकड़                                       | Upto 28.06.2022              |
| 4    | मेसर्स गणेश इन्डस्ट्रीज, पार्ट०- श्री गिरीधारी साव, पिता- स्व० निरो साव, 2. श्री विरेन्द्र साव, पिता- स्व० डालो साव, दोनों ग्राम-पो०- नवलशाही, कोडरमा।                                                | मौजा- जमडीहा, प्लॉट सं०- 48 अंश, 59 अंश, 60 एवं 455 अंश, रकवा- 4.50 एकड़                            | 16.07.12 to 15.07.2022       |
| 5    | श्री विनोद कुमार, पिता- श्री त्रिलोकी राम, ग्राम- नगरखारा (जलवाबाद), पो०- कोडरमा, जिला- कोडरमा।                                                                                                       | मौजा- कौआवार, खाता सं०- 57 प्लॉट सं०- 601 अंश, रकवा- 2.00 एकड़                                      | 27.07.2012 to 26.07.2022     |
| 6    | श्री राम प्रसाद साव, ग्राम- महथाडीह, पो०- डोमचौच, जिला- कोडरमा।                                                                                                                                       | मौजा- खेसमी उर्फ पुरनानगर, खाता सं०- 104 प्लॉट सं०- 2797 अंश एवं 2910 अंश, रकवा- 5.40 एकड़          | Upto 05.08.2022              |
| 7    | 1. श्री अनन्त प्रसाद सिंह, ग्राम-पो०- मसनोडीह, जिला- कोडरमा, 2. श्री चेतलाल राणा, ग्राम- पुरनाडीह, पो०- फुलवरिया, जिला- कोडरमा एवं 3. श्री बहादुर यादव, ग्राम- पुरनाडीह, पो०- पुरनाडीह, जिला- कोडरमा। | मौजा- पुरनाडीह, खाता सं०- 12, 182 एवं 180, प्लॉट सं०- 179 अंश, 180 अंश एवं 244 अंश, रकवा- 0.80 एकड़ | 03.09.2012 to 02.09.2022     |
| 8    | श्री देवेन्द्र प्रसाद मेहता, ग्राम- तेतरियाडीह, पो०- डोमचौच, जिला- कोडरमा।                                                                                                                            | मौजा- ताराटांड, प्लॉट सं०- 44, रकवा- 1.88 एकड़                                                      | Upto 04.10.2022              |
| 9    | श्री देवेन्द्र प्रसाद मेहता, ग्राम- तेतरियाडीह, पो०- डोमचौच, जिला- कोडरमा।                                                                                                                            | मौजा- ताराटांड, प्लॉट सं०- 1139 अंश, 1141 अंश एवं 1144 अंश, रकवा- 1.38 एकड़                         | Upto 18.11.2022              |
| 10   | श्री अशोक कुमार गुप्ता, पिता- स्व० सुखदेव प्रसाद गुप्ता, ग्राम-पो०- डोमचौच, कोडरमा 2. श्रीमती मालती देवी, पता- गैस गोदाम रोड, झुमरीतिलैया, पो०- झुमरीतिलैया, थाना- तिलैया, जिला- कोडरमा।              | मौजा- जमडीहा, खाता सं०- 05 प्लॉट सं०- 94, रकवा- 1.62 एकड़                                           | Upto 24.11.2022              |
| 11   | मेसर्स सविता स्टोन, प्रो०- श्री शिव कुमार वर्णवाल, पिता- स्व० प्रेमचन्द लाल मोदी, ग्राम- माथाडीह, पो०- डोमचौच, कोडरमा                                                                                 | मौजा- डोमचौच, खाता सं०- 1340 प्लॉट सं०- 5688, पो० एवं 10938 पो०, रकवा- 4.11 एकड़                    | 06.12.2012 to 05.12.2022     |
| 12   | श्री रामेश्वर प्रसाद साव, पिता- स्व० डेगनारायण साव, ग्राम-पो०- डोमचौच, जिला- कोडरमा                                                                                                                   | मौजा- खेसमी उर्फ पुरनानगर, खाता सं०- 124 प्लॉट सं०- 2393, रकवा- 4.09 एकड़                           | 20.12.2012 to 19.12.2022     |
| 13   | श्री तारकेश्वर मेहता, ग्राम- बेहराडीह, पो०- डोमचौच, कोडरमा।                                                                                                                                           | मौजा- डोमचौच, प्लॉट सं०- 5688 अंश, रकवा- 3.50 एकड़                                                  | Upto 22.12.2022              |
| 14   | श्री भीम साहु, पिता- स्व० निरो साव, ग्राम-पो०- नवलशाही, जिला- कोडरमा।                                                                                                                                 | मौजा- जमडीहा, प्लॉट सं०- 170, रकवा- 1.11 एकड़                                                       | 26.12.12 to 25.12.2022       |
| 15   | मेसर्स जे० डी० स्टोन, प्रो०- श्री शशि कुमार, पिता- श्री जीवलाल यादव, ग्राम- झुमरी, पो०- करमा, थाना- तिलैया, जिला- कोडरमा।                                                                             | मौजा- थाम, प्लॉट सं०- 4843 अंश से 4878 अंश एवं 4882 अंश, रकवा- 3.75 एकड़                            | Upto 15.01.2023              |
| 16   | सदानन्द मेहता एवं महेश मेहता, कोडरमा।                                                                                                                                                                 | मौजा- पहाड़पुर, प्लॉट सं०- 511 से 521, 545, 546, 547 अंश, 548 से 550 एवं 552, रकवा- 2.47 1/4 एकड़   | Upto 04.02.2023              |
| 17   | श्री महावीर यादव, पिता- स्व० गिरधारी यादव, ग्राम- कटरियाटांड (खरखार), पो०-थाना- नवलशाही, जिला- कोडरमा                                                                                                 | मौजा- खरखार, खाता सं०- 106 प्लॉट सं०- 3609, रकवा- 1.40 एकड़                                         | 21.02.2013 to 20.02.2023     |
| 18   | श्री रंगनाथ सिंह, पिता- स्व० त्रिलाकी नाथ सिंह, ग्राम-पो०- मसनोडीह, जिला- कोडरमा।                                                                                                                     | मौजा- पुरनाडीह, खाता 16, 180 एवं 287, प्लॉट - 243 अंश, 244 अंश एवं 245 अंश, रकवा- 1.28              | 20.02.2013 to 19.02.2023     |



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| 19 | श्री उमाकान्त राणा, ग्राम+पो0- झुमरीतिलैया, कोडरमा।                                                                                                                                                                                                                                                            | मौजा- पुरनाडीह, प्लॉट सं0- 2834<br>रकबा- 0.86 एकड़                                                                                                                                                                                                                                                                                                                                                                                 | Upto 05.03.2023          |
| 20 | मैसर्स सविता स्टोन, प्रो0- श्री शिव कुमार वर्णवाल, पिता- स्व0 प्रेमचन्द लाल मोदी, ग्राम- माथाडीह, पो0- डोमचौच, कोडरमा                                                                                                                                                                                          | मौजा- डोमचौच, खाता सं0- 1340<br>प्लॉट सं0- 5688, पी0<br>रकबा- 1.53 एकड़                                                                                                                                                                                                                                                                                                                                                            | 07.05.2013 to 06.05.2023 |
| 21 | श्री देवेन्द्र प्रसाद मेहता, ग्राम- तेतरियाडीह, पो0- डोमचौच, जिला- कोडरमा।                                                                                                                                                                                                                                     | मौजा- ताराटंड, खाता सं0- 133,<br>प्लॉट सं0- 1140, रकबा- 1.51 एकड़                                                                                                                                                                                                                                                                                                                                                                  | Upto 11.07.2023          |
| 22 | श्री महेन्द्र प्रसाद वर्मा, पिता- स्व0 जलधारी प्रसाद वर्मा, ग्राम+पो0- डोमचौच, 2. श्री कपिलदेव शर्मा, पिता- स्व0 रूपचन्द्र शर्मा, ग्राम+पो0- डोमचौच, 3. श्री राम लाल प्रसाद यादव, पिता- श्री ननकु प्रसाद यादव, ग्राम+पो0- डोमचौच, तीनो जिला- कोडरमा।                                                           | मौजा- नावाडीह प्लॉट सं0- 1382, 1383 अंश, 1423, 1424, 1427, 1428 अंश, 1430, 1431, 1432, 1433, 1434, 1435, 1436, 1523, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533 अंश, 1541 अंश, 1552, 1553, 1554, 1557, 1558, 1559, 1560, 1561 अंश, 1572, 1573, 1578 अंश, 1577, 1579, 1580, 1581, 1582, 1586 अंश, 1600 अंश, 1601 अंश एवं 1603 अंश, खाता नं0- 35, 102, 93, 27, 16, 04, 46, 77, 74, 69, 59, 70, 06 एवं 53<br>रकबा - 3.28 1/4 एकड़ | Upto 24.11.2023          |
| 23 | विनायक मिन्निरत्स, पार्ट0 रूपक सिंह एवं परमेश्वर मेहता, ग्राम+पो0- मसनोडीह, कोडरमा।                                                                                                                                                                                                                            | मौजा- नवादा, प्लॉट सं0- 671 अंश, 672, 673 अंश, 690 अंश, 691,<br>रकबा- 0.64 1/2 एकड़                                                                                                                                                                                                                                                                                                                                                | Upto 29.11.2023          |
| 24 | श्री प्रकाश यादव, पिता- श्री बुधन महतो, ग्राम- नवादा, पो0- फुलवरिया, जिला- कोडरमा                                                                                                                                                                                                                              | मौजा- नवादा, खाता सं0- 18<br>प्लॉट सं0- 728, 729, 732 एवं 781 अंश,<br>रकबा- 1.07 एकड़                                                                                                                                                                                                                                                                                                                                              | 09.12.2013 to 08.12.2023 |
| 25 | सर्वश्री धन लक्ष्मी स्टोन वर्क्स, प्रो0 श्री विष्णु कु0 खटौर, मु0+पो0- झु0 ति0, कोडरमा।                                                                                                                                                                                                                        | मौजा- थाम, प्लॉट सं0- 4617p, 4839p, 4882p,<br>रकबा- 6.95 एकड़                                                                                                                                                                                                                                                                                                                                                                      | Upto 21.01.2024          |
| 26 | श्री महेन्द्र प्रसाद वर्मा, पिता- स्व0 जलधारी प्रसाद वर्मा, ग्राम+पो0- डोमचौच, जिला- कोडरमा।                                                                                                                                                                                                                   | मौजा- खरखार प्लॉट सं0- 2684 अंश, 2685 अंश, 2686 अंश एवं 2687 अंश<br>खाता सं0- 117, 98 एवं 130<br>रकबा- 0.81 एकड़                                                                                                                                                                                                                                                                                                                   | Upto 10.04.2024          |
| 27 | श्री जीवलाल यादव, ग्राम0- झुमरी, पो0- करमा, कोडरमा।                                                                                                                                                                                                                                                            | मौजा- थाम, प्लॉट सं0- 5231 से 5235.पी0<br>रकबा- 1.57 एकड़                                                                                                                                                                                                                                                                                                                                                                          | Upto 22.05.2024          |
| 28 | श्री लखन लाल मेहता, पिता- स्व0 रामेश्वर मेहता, ग्राम+पो0- फुलवरिया, जिला- कोडरमा।                                                                                                                                                                                                                              | मौजा- पहाड़पुर खाता सं0- 36 एवं 27<br>प्लॉट सं0- 551, 553, 554 एवं 557 अंश,<br>रकबा- 0.89 एकड़                                                                                                                                                                                                                                                                                                                                     | 13.08.2014 to 12.08.2024 |
| 29 | श्री अमिताभ कुमार, पिता- स्व0 कृष्ण कुमार चौधरी, ग्राम+पो0+जिला- कोडरमा।                                                                                                                                                                                                                                       | मौजा- खरखार, प्लॉट सं0- 817, 818, 820, 824, 826 से 846, 848 से 850, 858 एवं 891, रकबा- 6.32 एकड़                                                                                                                                                                                                                                                                                                                                   | Upto 10.02.2025          |
| 30 | श्री अमिताभ कुमार, ग्राम+पो0- कोडरमा, 2. रामचन्द्र मेहता, 3. श्री गोपाल कुमार, गिरीडीह रोड, कोडरमा।                                                                                                                                                                                                            | मौजा- डोमचौच, प्लॉट सं0- 5688 अंश<br>रकबा- 6.74 एकड़                                                                                                                                                                                                                                                                                                                                                                               | Upto 10.02.2025          |
| 31 | मैसर्स साई बाबा स्टोन ववारी, पार्ट0- 1. मो0 गुलाम रसूल, पिता- मो0 सद्दीक, ग्राम- पहाड़पुर, पो0- फुलवरिया, जिला- कोडरमा 2. मो0 सकुर अंसारी, पिता- स्व0 बहदली मियाँ, ग्राम- पहाड़पुर, पो0- फुलवरिया, कोडरमा, 3. श्री प्रवीन कुमार राम, पिता- स्व0 सुनील कुमार राम, ग्राम- खरखार, पो0+थाना- नवलशाही, जिला- कोडरमा | मौजा- खरखार एवं पहाड़पुर, थाना- मरकच्चो, प्लॉट सं0- 2649.पी0, 2663, 2664, 2666.पी0, 2668.पी0, 2650, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2665.पी0, 836.पी0, 125.पी0, 126, 143, 144, 145, 146, 147, 154, 155 एवं 156,<br>रकबा- 2.01 एकड़                                                                                                                                                               | 06.04.2016 to 05.04.2026 |
| 32 | मों चंचालनी स्टोन मिनरल्स, पार्ट0- 1. श्री देवेन्द्र मेहता, पिता- श्री यदुन्मदन मेहता, ग्राम+पो0- फुलवरिया, जिला- कोडरमा, 2. श्री डीहचन्द मेहता, पिता- श्री जयनारायण मेहता, ग्राम- बीघा, पो0- फुलवरिया, जिला- कोडरमा।                                                                                          | मौजा- मरकच्चो, खाता नं0- 342 एवं 1406,<br>प्लॉट सं0- 11632, 11633, 11668, 11669, 11681, 11663, 11641, 11642, 11643, 11645, 11646, 11647, 11648, 11649 एवं 11650, रकबा- 4.68 एकड़                                                                                                                                                                                                                                                   | 06.04.2016 to 05.04.2026 |

रदद खनन पट्टा की सूची।

| क्र0 | खनिज पट्टेधारी का नाम एवं पता                                                                                                                  | पट्टा क्षेत्र का विवरण                                                                     | खनन पट्टा की समाप्ति की तिथि |
|------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|------------------------------|
| 1    | 2                                                                                                                                              | 3                                                                                          | 4                            |
| 1    | मों विन्देश्वरी स्टोन, प्रो0- श्री आलोक कुमार, पिता- श्री प्रयाग मोदी, ग्राम+पो0- मरकच्चो, जिला- कोडरमा।                                       | मौजा- मरकच्चो, थाना- मरकच्चो, खाता नं0- 933<br>प्लॉट सं0- 1608 एवं 1609<br>रकबा- 1.88 एकड़ | 10.03.2016 to 09.03.2026     |
| 2    | श्री देवेन्द्र मेहता, पिता- स्व0 छोटेलाल मेहता, ग्राम+पो0- डोमचौच एवं श्री राजु मेहता, पिता- श्री मेधलाल मेहता, ग्राम- नावाडीह, पो0- बेहराडीह। | मौजा- पंडरिया खाता सं0- 31<br>प्लॉट सं0- 104 एवं 97 अंश रकबा- 1.30                         | 06.02.2010 to 05.02.2020     |



# Koderma District Survey Report for Stone

|    |                                                                                                                                                                   |                                                                                                                                                       |                             |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
|    |                                                                                                                                                                   | एकड़                                                                                                                                                  |                             |
| 3  | मनोज कुमार मेहता, ग्राम- बेहराडीह, पो0- डोमचौच, जिला- कोडरमा।                                                                                                     | मौजा- डोमचौच,<br>प्लॉट सं0- 265 अंश<br>रकबा- 2.75 एकड़                                                                                                | Upto 24.02.2022             |
| 4  | मनोज कुमार मेहता, ग्राम- बेहराडीह, पो0- डोमचौच, जिला- कोडरमा।                                                                                                     | मौजा- डोमचौच,<br>प्लॉट सं0- 267<br>रकबा- 3.40 एकड़                                                                                                    | Upto 11.01.2023             |
| 5  | मे0 जय माता दी स्टोन, पार्टनर- राम कुमार पंडित                                                                                                                    | मौजा- डोमचौच,<br>प्लॉट सं0- 60, 72 से 76, 93 से 100 एवं 11455<br>रकबा- 1.93 एकड़                                                                      | Upto 05.01.2020             |
| 6  | श्री संजय कुमार मेहता, पिता- श्री जीवन लाल मेहता, ग्राम+पो0- डोमचौच श्री अशोक कुमार मेहता, पिता- श्री लखन मेहता, ग्राम- नावाडीह, पो0- बेहराडीह द्वय जिला- कोडरमा। | मौजा- डोमचौच<br>प्लॉट सं0- 143, 149 एवं 150<br>खाता नं0- 920 एवं 521<br>रकबा - 1.05 एकड़<br>थाना नं0 - 68                                             | 07.05.2013 to<br>06.05.2023 |
| 7  | श्री रामजीत मेहता, पिता- स्व0 नीलकण्ठ मेहता, ग्राम- लंगरापीपर, पो0- डोमचौच जिला- कोडरमा।                                                                          | मौजा- डोमचौच<br>प्लॉट सं0- 11372 अंश<br>खाता नं0- 673<br>रकबा - 2.50 एकड़                                                                             | 11.02.2011 to<br>10.02.2022 |
| 8  | श्री अशोक कुमार सिंह, ग्राम0- गुजरे, पो0- दावथाम, कोडरमा।                                                                                                         | मौजा- थाम,<br>खाता सं0- 127<br>प्लॉट सं0- 4617.पी0,<br>रकबा-0.75 एकड़                                                                                 | Upto 28.01.2019             |
| 9  | श्री संजय कुमार राय, पिता- स्व0 तारणी राय, ग्राम+पो0- मसनोडीह, जिला- कोडरमा।                                                                                      | मौजा- पुरनाडीह एवं नवादा<br>प्लॉट सं0- 2740 अंश, 2741 अंश, 2742 अंश, 2949 अंश, 2950 अंश, 2951, 2952 अंश, 158 अंश, 160 एवं 161 अंश,<br>रकबा- 9.56 एकड़ | 10.07.2016 to<br>09.07.2026 |
| 10 | सर्वश्री धन लक्ष्मी स्टोन वर्क्स, प्रो0 श्री विष्णु कु0 खट्टर, कोडरमा।                                                                                            | मौजा- थाम,<br>प्लॉट सं0- 4617.पी0,<br>रकबा-1.00 एकड़                                                                                                  | Upto 23.12.2019             |
| 11 | श्री रजत कुमार, मु0+पो0- झु0 तिलैया, कोडरमा।                                                                                                                      | मौजा- खेसमी चर्फ पुरनानगर<br>प्लॉट सं0- 2797.पी0<br>रकबा- 3.15 एकड़                                                                                   | Upto 23.10.2020             |



8



## दिनांक- 31.03.2022 को समाप्त पत्थर लघु खनन पट्टों की अद्यतन सूची।

| क्र० | खनिज पट्टेधारी का नाम एवं पता                                                                                                                                                                                                                                                    | पट्टा क्षेत्र का विवरणी                                                                                                             | खनन पट्टा की समाप्ति की तिथि   |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|
| 1    | 2                                                                                                                                                                                                                                                                                | 3                                                                                                                                   | 4                              |
| 1    | मेसर्स दूर्गा स्टेन चिप्स, पार्ट-0- 1. श्रीमती निधा वर्णवाल, पति- स्व० इन्द्रदेव वर्णवाल, ग्राम- बाच्छेडीह, पो- नवलशाही, 2. श्री हिमांशु केडिया, आई० एम० एस० रोड, झु० तिलैया, कोडरमा।                                                                                            | मौजा- खरखार<br>प्लॉट सं०- 3557. पी०<br>रकबा- 5.00 एकड़                                                                              | Upto<br>31.03.2022             |
| 2    | मेसर्स दूर्गा स्टेन चिप्स, पार्ट-0- 1. श्रीमती निधा वर्णवाल, पति- स्व० इन्द्रदेव वर्णवाल, ग्राम- बाच्छेडीह, पो- नवलशाही, 2. श्री हिमांशु केडिया, आई० एम० एस० रोड, झु० तिलैया, कोडरमा।                                                                                            | मौजा- खरखार<br>प्लॉट सं०- 3557. पी०<br>रकबा- 2.00 एकड़                                                                              | Upto<br>31.03.2022             |
| 3    | मेसर्स दूर्गा स्टेन चिप्स, पार्ट-0- 1. श्रीमती निधा वर्णवाल, पति- स्व० इन्द्रदेव वर्णवाल, ग्राम- बाच्छेडीह, पो- नवलशाही, 2. श्री हिमांशु केडिया, आई० एम० एस० रोड, झु० तिलैया, कोडरमा।                                                                                            | मौजा- खरखार<br>प्लॉट सं०- 3557. पी०<br>रकबा- 1.00 एकड़                                                                              | Upto<br>31.03.2022             |
| 4    | श्री महावीर यादव, पिता- स्व० गिरधारी यादव, ग्राम- कटरियाटांड (खरखार), पो०+थाना- नवलशाही, जिला- कोडरमा।                                                                                                                                                                           | मौजा- खरखार,<br>खाता सं०- 358<br>प्लॉट सं०- 3557 P, 3610 एवं 3611,<br>रकबा- 7.80 एकड़                                               | Upto<br>31.03.2022             |
| 5    | श्री अशोक कुमार सिंह, पिता- स्व० पार्वती नारायण सिंह, ग्राम+पो०- नवलशाही, जिला- कोडरमा एवं श्री मुन्ना कुमार सिंह, कोडरमा।                                                                                                                                                       | मौजा- खरखार<br>प्लॉट सं०- 750, 751, 754, 767, 768, 769, 766/3748, 766/3749, 749, 752, 762, 768, 770, 753 एवं 764<br>रकबा- 4.80 एकड़ | 25.01.2020<br>to<br>31.03.2022 |
| 6    | बजरंग भिनिरल्स, प्रो० कमल कुमार अग्रवाल, झु० तिलैया, कोडरमा।                                                                                                                                                                                                                     | मौजा- कुसमई,<br>प्लॉट सं०- 870, 871, 872, 874.पी०<br>रकबा- 8.35 एकड़                                                                | Upto<br>31.03.2022             |
| 7    | श्री कमल कुमार अग्रवाल, पिता- श्री सत्यनारायण केडिया, आई० एम० एस० रोड, झु० तिलैया, जिला- कोडरमा।                                                                                                                                                                                 | मौजा- खेष्मी उर्फ पुरनानगर<br>प्लॉट सं०- 2910. पी०<br>रकबा- 5.10 एकड़                                                               | Upto<br>31.03.2022             |
| 8    | श्रीमती विमला देवी, पति- श्री उमेश राम, ग्राम- नगरखारा (जलवाबाद), पो०- कोडरमा।                                                                                                                                                                                                   | मौजा- खेष्मी उर्फ पुरनानगर<br>प्लॉट सं०- 45.पी०<br>रकबा- 1.00 एकड़                                                                  | Upto<br>31.03.2022             |
| 9    | श्री विनोद कुमार, ग्राम- नगरखारा, (जलवाबाद), पो०+ जिला- कोडरमा।                                                                                                                                                                                                                  | मौजा- खेष्मी उर्फ पुरनानगर<br>प्लॉट सं०- 45.पी०<br>रकबा- 4.00 एकड़                                                                  | Upto<br>31.03.2022             |
| 10   | श्री राम प्रसाद साव, ग्राम- महथाडीह, पो०- डोमचौंच, जिला- कोडरमा।                                                                                                                                                                                                                 | मौजा- खेष्मी उर्फ पुरनानगर<br>खाता सं०- 124<br>प्लॉट सं०- 2797 अंश<br>रकबा- 2.00 एकड़                                               | Upto<br>31.03.2022             |
| 11   | श्री रूपक सिंह, ग्राम+पो०- मसनोडीह, कोडरमा।                                                                                                                                                                                                                                      | मौजा- नवादा,<br>प्लॉट सं०- 122<br>रकबा- 1.50 एकड़                                                                                   | Upto<br>31.03.2022             |
| 12   | श्री उमाशंकर प्रसाद, पिता- स्व० नन्दकिशोर प्रसाद, ग्राम+पो०- डोमचौंच, जिला- कोडरमा।                                                                                                                                                                                              | मौजा- रायडीह,<br>प्लॉट सं०- 2(P) & 3(P)<br>रकबा- 4.00 एकड़                                                                          | Upto<br>31.03.2022             |
| 13   | मेसर्स कमल प्रभात स्टेन, प्रो० श्री सुरेन्द्र कुमार मेहता, पिता- श्री विष्णुनाथ मेहता, ग्राम+पो०- डोमचौंच, जिला- कोडरमा।                                                                                                                                                         | मौजा- डोमचौंच,<br>खाता सं०- 1340,<br>प्लॉट सं०- 5688. पी०<br>रकबा- 5.50 एकड़                                                        | Upto<br>31.03.2022             |
| 14   | मेसर्स सत्यम शिवम स्टेन कन्स्ट्रक्शन, पार्ट-0- 1. श्री राजेश कुमार मेहता, पिता- स्व० मुरलीधर मेहता, 2. श्री विजय कुमार मेहता, पिता- श्री भरत नारायण मेहता, 3. श्री सुजीत मेहता, पिता- श्री सुरेन्द्र कुमार मेहता, तीनों ग्राम- डोमचौंच दाब रोड, पो०+थाना- डोमचौंच, जिला- कोडरमा। | मौजा- डोमचौंच के प्लॉट सं०- 4958 अंश, 5364 अंश, 5385, 5366, 5368 अंश एवं 5688 अंश, थाना नं०- 68,<br>रकबा- 5.35 एकड़                 | 15.07.2021<br>to<br>31.03.2022 |
| 15   | श्री अमिताभ कुमार, ग्राम+पो०- कोडरमा, 2. रामचन्द्र मेहता, ग्राम- बीघा, पो०- फुलवरिया, जिला- कोडरमा।                                                                                                                                                                              | मौजा- डोमचौंच,<br>प्लॉट सं०- 5688.पी०<br>रकबा- 2.00 एकड़                                                                            | Upto<br>31.03.2022             |
| 16   | श्री विजय कुमार साव, ग्राम + पो०- पुरनाडीह, कोडरमा।                                                                                                                                                                                                                              | मौजा- पुरनाडीह<br>प्लॉट सं०- 523.पी०, 524.पी० अन्य<br>रकबा- 1.55 एकड़                                                               | Upto<br>31.03.2022             |
| 17   | श्री विजय कुमार साव, ग्राम + पो०- पुरनाडीह, कोडरमा।                                                                                                                                                                                                                              | मौजा- पुरनाडीह,<br>प्लॉट सं०- 541,<br>रकबा- 1.50 एकड़                                                                               | Upto<br>31.03.2022             |
| 18   | श्री सुरेन्द्र ठाकुर, पिता- श्री राम देव ठाकुर, ग्राम- सीकोहिया, थाना- सरैया, जिला- मुजफ्फरपुर, राज्य- बिहार।                                                                                                                                                                    | मौजा- पुरनाडीह,<br>खाता सं०- 23, 25 एवं 248<br>प्लॉट सं०- 2881 अंश, 2882 अंश, 2923, 2926, 2927, 2883 एवं 2884<br>रकबा- 0.70 एकड़    | Upto<br>31.03.2022             |
| 19   | मेसर्स पवित्र धरती स्टेन क्वारी वर्क्स, प्रो० श्री रंजीत कुमार राय, पिता- स्व० प्रफुल्ल मोहन राय, एवं 2. श्री राज कुमार दास, पिता- पवित्र किशोर दास, दानों ग्राम- चाराडीह, पो०- करमा, जिला- कोडरमा।                                                                              | मौजा- थाम,<br>खाता सं०- 127<br>प्लॉट सं०- 4882.पी०,<br>रकबा- 1.75 एकड़                                                              | Upto<br>31.03.2022             |
| 20   | श्री दशरथ राणा, पिता- स्व० चोवा राणा, ग्राम- थाम, पो०- दाबथाम, कोडरमा।                                                                                                                                                                                                           | मौजा- थाम,<br>प्लॉट सं०- 78.पी० से 76.पी०, 82<br>रकबा- 1.00 एकड़                                                                    | Upto<br>31.03.2022             |

# Koderma District Survey Report for Stone

|    |                                                                                                                            |                                                                                           |                     |
|----|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------|
| 21 | मे० शुभ लक्ष्मी इन्टरप्राइजेज, पार्ट०- श्री सुभाष देव, श्री लक्ष्मी साव एवं श्री दिनेश कुमार सिंह, ग्राम+पो०+जिला- कोडरमा। | मौजा- छोटीकरौजिया,<br>प्लॉट सं०- 359, 376 से 379<br>रकबा- 1.50 एकड़                       | Upto<br>31.03.2022  |
| 22 | श्री मनोज कुमार, पिता- श्री जगन्नाथ स्वर्णकार, ग्राम+पो०- जयनगर, कोडरमा।                                                   | मौजा- भिन्कोडीह<br>प्लॉट- 35 अंश, 37, 39 अंश, 41, 42<br>अंश, 43 एवं 48<br>रकबा- 2.24 एकड़ | Up to<br>31.03.2022 |



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## कोडरमा जिलान्तर्गत दिनांक- 31.03.2022 के पूर्व में परिसमाप्त खनन पट्टों की सूची।

| क्र० | खनन पट्टेधारी का नाम एवं घता                                                                                                                                                                                     | पट्टा क्षेत्र का विवरणी                                                                        | खनन पट्टा की समाप्ति की तिथि |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------|
| 1    | 2                                                                                                                                                                                                                | 3                                                                                              | 4                            |
| 1    | 1. श्री विरेन्द्र मोदी, पिता- श्री बंशी मोदी, ग्राम- भेलवाटांड, पो0- डोमचौच, 2. श्री अजीत कुमार सिंह, ग्राम+पो0- मसनोडीह, कोडरमा।                                                                                | मौजा- नवलशाही, प्लॉट सं0- 107.पी0, 184, 192, 290, 193, 292, 298 आदि रकवा- 3.69 एकड़            | Upto 27.06.2018              |
| 2    | श्री निलेश रंजन, पिता- श्री सरयु प्रसाद मेहता, ग्राम+पो0- बेहराडीह, जिला- कोडरमा।                                                                                                                                | मौजा- जमडीहा, प्लॉट सं0- 39.पी0, 439.पी0 रकवा- 0.50 एकड़                                       | Upto 24.06.2018              |
| 3    | श्री रूपक सिंह, पिता- श्री सदानन्द प्र० सिंह, ग्राम0+पो0- मसनोडीह, कोडरमा।                                                                                                                                       | मौजा- नवादा, प्लॉट सं0- 311, 313, 314, 315, 316, 317 अंश रकवा- 0.96 एकड़                       | Upto 13.06.2018              |
| 4    | श्री तारकेश्वर मेहता, ग्राम- नावाडीह, पो0- डोमचौच, कोडरमा।                                                                                                                                                       | मौजा- डोमचौच, प्लॉट सं0- 7478.पी0 एवं 7475 रकवा- 0.39 एकड़                                     | Upto 03.08.2018              |
| 5    | मे० जय माँ लक्ष्मी स्टोन वर्क्स, पार्ट0- 1. श्री बाबू लाल मेहता, 2. श्री अशोक कुमार मेहता द्वय ग्राम- बोधा, पो0- फुलवरिया, कोडरमा।                                                                               | मौजा- डोमचौच, प्लॉट सं0- 7585, 7586, 7587 अन्य रकवा- 1.22 एकड़                                 | Upto 22.08.2018              |
| 6    | मे० तैयब, ग्राम- पथलकुदवा, पो0- नईटांड, कोडरमा।                                                                                                                                                                  | मौजा- बड़कीलोडिया, खाता सं0- 27 प्लॉट सं0- 247. पी0, रकवा-3.00                                 | Upto 05.04.2018              |
| 7    | श्री विनोद प्र० मेहता एवं शलेन्द्र कुमार, ग्राम+पो0- डोमचौच, कोडरमा।                                                                                                                                             | मौजा- खरखार प्लॉट सं0- 2831.पी0 रकवा- 0.32 एकड़                                                | Upto 17.02.2019              |
| 8    | श्री राजकुमार मोदी एवं श्री प्रेम कुमार दास, द्वय ग्राम+पो0- नवलशाही, जिला- कोडरमा।                                                                                                                              | मौजा- जमडीहा, प्लॉट सं0- 101 रकवा- 1.35 एकड़                                                   | Upto 18.03.2019              |
| 9    | श्री विरेन्द्र मोदी, मु०+पो0- डोमचौच, कोडरमा।                                                                                                                                                                    | मौजा- नवलशाही, प्लॉट सं0- 108, 109, 110, 183 रकवा- 3.38 एकड़                                   | Upto 31.08.2019              |
| 10   | मेसर्स वनांचल स्टोन इन्डस्ट्रीज, प्रो० श्री सुभाष कु० मेहता, ग्राम+पो0-डोमचौच, कोडरमा।                                                                                                                           | मौजा- तावाटांड, प्लॉट सं0- 1120.पी0, 1121.पी एवं 1122, रकवा- 0.42 एकड़                         | Upto 18.05.2019              |
| 11   | 1. श्री सुनील कुमार राम, ग्राम- खरखार, पो0- नवलशाही, 2. श्री रामेश्वर सिंह, ग्राम+पो0- मसनोहना, जिला- कोडरमा।                                                                                                    | मौजा- खरखार प्लॉट सं0- 3498.पी0 रकवा- 0.35 एकड़                                                | Upto 06.10.2019              |
| 12   | श्री उमाशंकर प्रसाद, मु०+ पो0- डोमचौच, कोडरमा।                                                                                                                                                                   | मौजा- डोमचौच, प्लॉट सं0- 6. पी0 रकवा- 3.90 एकड़                                                | Upto 10.10.2019              |
| 13   | मे० दुर्गा स्टोन चिप्स, पार्ट0 1. श्री रंजीत कुमार वर्णवाल, परसाबाद, 2. श्रीमती प्रमिला वर्णवाल, ग्राम+पो0- जयनगर, जिला- कोडरमा।                                                                                 | मौजा- कटिया, प्लॉट सं0- 4080, 3835, 4081 रकवा- 1.23 एकड़                                       | Upto 06.10.2019              |
| 14   | श्री कामेश्वर प्रसाद, ग्राम- समलडीह, पो0- बासोडीह, कोडरमा।                                                                                                                                                       | मौजा- योगीडीह, प्लॉट सं0- 315.पी0, 90. पी0 रकवा- 2.00 एकड़                                     | Upto 29.09.2019              |
| 15   | श्री तारुणि प्रसाद, मु०+पो0- नवलशाही, कोडरमा।                                                                                                                                                                    | मौजा- जमडीहा, प्लॉट सं0- 56 एवं 57 रकवा- 0.58 एकड़                                             | Upto 07.12.2019              |
| 16   | मे० सकुर एवं मे० सिद्धकी, ग्राम+पो0- पुरनाडीह, कोडरमा।                                                                                                                                                           | मौजा- पहाड़पुर, प्लॉट सं0- 192, 193, 194, 513, 504, 505, 512, 2703, 2704, 2705 रकवा- 0.78 एकड़ | Upto 24.12.2019              |
| 17   | मेसर्स साई बाबा स्टोन चिप्स, पार्ट0- 1. श्रीमती अंजना मेहता, पति- श्री निलेश रंजन, ग्राम- बेहराडीह, पो0- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा एवं श्रीमती विन्दवा देवी, ग्राम- कुसमई, पो0- नवलशाही, जिला- कोडरमा | मौजा- कुसमई, प्लॉट सं0- 1130.पी0, 1620.पी0 रकवा- 1.60 एकड़                                     | Upto 05.01.2020              |
| 18   | रुद्रमणि पटेल, प्लॉट नं०- 288, कंकड़बाग कालोनी, पटना एवं बासुदेव मेहता, फुलवरिया, कोडरमा।                                                                                                                        | मौजा- डोमचौच, प्लॉट सं0- 5688.पी0 रकवा- 4.20 एकड़                                              | Upto 05.01.2020              |
| 19   | सुकरी देवी, मु०+पो0- पुरनाडीह, कोडरमा।                                                                                                                                                                           | मौजा- जमडीहा, प्लॉट सं0- 189 रकवा- 1.05 एकड़                                                   | Upto 27.02.2020              |
| 20   | श्री राजकुमार मेहता, पिता- श्री विष्णुनाथ मेहता एवं हरिश कुमार, पिता- श्री तारकेश्वर मेहता, ग्राम- नावाडीह, पो0- डोमचौच, कोडरमा।                                                                                 | मौजा- डोमचौच, प्लॉट सं0- 5688. पी0 रकवा- 1.00 एकड़                                             | Upto 19.02.2020              |
| 21   | मे० खरखार स्टोन माईन्स, प्रो० मे० शाहीद, ग्राम- खरखार, 2. श्री भीमलाल मेहता, नावाडीह, कोडरमा।                                                                                                                    | मौजा- खरखार, प्लॉट सं0- 3499.पी0, 3500, 3501, 3510, 3514, से 3517 रकवा- 1.30 एकड़              | Upto 16.04.2020              |



|    |                                                                                                                                                 |                                                                                                                        |                    |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------|
| 22 | श्री अशोक कुमार सिंह, ग्राम+पो0- नवलषाही, एवं श्री विरेन्द्र कुमार सिंह, ग्राम+पो0- मसनोडीह।                                                    | मौजा- खरखार, प्लॉट सं0- 771 एवं 772<br>रकवा- 1.48 एकड़                                                                 | Upto<br>23.04.2020 |
| 23 | श्री विक्रम कुमार, पिता- श्री बैजनाथ प्रसाद सिंह, मसनोडीह, कोडरमा।                                                                              | मौजा- खरखार, प्लॉट सं0- 3512.पी0, 3521, 3522.पी0<br>रकवा- 0.53 एकड़                                                    | Upto<br>16.04.2020 |
| 24 | श्रीमती विन्दवा देवी, ग्राम+पो0- डोमचौंच, जिला- कोडरमा।                                                                                         | मौजा- कुसमई, प्लॉट सं0- 1234, 1235, 1244, 1245, 1263 से 1268<br>रकवा- 0.68 एकड़                                        | Upto<br>23.04.2020 |
| 25 | मे0 कुसमई स्टोन खवारी, प्रो0- श्री छोटु मोदी, पिता- स्व0 रूपन मोदी, ग्राम- बाच्छेडीह, पो0- नवलषाही, कोडरमा।                                     | मौजा- कुसमई, प्लॉट सं0- 874.पी0<br>रकवा- 1.23 एकड़                                                                     | Upto<br>17.01.2020 |
| 26 | श्री रूपक सिंह, पिता- श्री सदानन्द प्र0 सिंह, ग्राम0+पो0- मसनोडीह, कोडरमा एवं श्री परमेश्वर मेहता, नावाडीह, जिला- कोडरमा।                       | मौजा- नवादा, प्लॉट सं0- 856.पी0 से 860, 863, 712., पी0 714 से 720<br>रकवा- 2.30 एकड़                                   | Upto<br>23.04.2020 |
| 27 | श्री पंकज कुमार सिंह एवं कुमार गौरव, पिता- श्री रामेश्वर सिंह, कोडरमा।                                                                          | मौजा- पेसरा, प्लॉट सं0- 895.पी0<br>रकवा- 3.85 एकड़                                                                     | Upto<br>16.04.2020 |
| 28 | श्री राजेश मोदी, पिता- श्री मथुरा मोदी, ग्राम+पो0- डोमचौंच, जिला- कोडरमा।                                                                       | मौजा- झगराही, प्लॉट सं0- 52 to 55<br>रकवा- 3.34 एकड़                                                                   | Upto<br>05.01.2020 |
| 29 | श्री तारकेश्वर मेहता, ग्राम- नावाडीह, पो0- डोमचौंच, कोडरमा।                                                                                     | मौजा- डोमचौंच, प्लॉट सं0- 8520<br>रकवा- 1.30 एकड़                                                                      | Upto<br>31.03.2020 |
| 30 | श्री युगल किशोर प्रसाद सिंह, पिता- स्व0 सोमेश्वर प्रसाद सिंह, 2. श्री नवीन कुमार सिंह, पिता- स्व0 शक्ति सिंह, दोनों ग्राम+पो0- मसनोडीह, कोडरमा। | मौजा- डोमचौंच, प्लॉट सं0- 10938.पी0<br>रकवा- 1.00 एकड़                                                                 | Upto<br>31.03.2020 |
| 31 | श्री मंजीत कुमार मेहता, ग्राम+पो0- डोमचौंच, कोडरमा।                                                                                             | मौजा- डोमचौंच, खाता सं0- प्लॉट सं0- 5688. पी0<br>रकवा- 4.25 एकड़                                                       | Upto<br>04.06.2019 |
| 32 | श्री सुनील कुमार, पिता- श्री प्रदीप साव एवं श्री निलेश रंजन, पिता- श्री सरयु प्रसाद मेहता, ग्राम+पो0- बेहराडीह, कोडरमा।                         | मौजा- डोमचौंच, प्लॉट सं0- 5688. पी0<br>रकवा- 3.75 एकड़                                                                 | Upto<br>24.01.2020 |
| 33 | श्री सरयु यादव, मु0+पो0- पुरनाडीह, कोडरमा।                                                                                                      | मौजा- पुरनाडीह, प्लॉट सं0- 2801. पी0<br>रकवा- 0.54 एकड़                                                                | Upto<br>31.03.2020 |
| 34 | मे0 जय साई बाबा स्टोन खवारी, प्रो0- श्री रामेश्वर यादव, पिता- स्व0 डेगन यादव, ग्राम+पो0- ढाब, जिला- कोडरमा।                                     | मौजा- ढाब, प्लॉट सं0- 2483.पी0, 2510<br>रकवा- 1.75 एकड़                                                                | Upto<br>17.03.2020 |
| 35 | श्री अरुण कुमार शर्मा, ग्राम+पो0- नवलषाही, कोडरमा।                                                                                              | मौजा- खेसमी उर्फ पुरनानगर, प्लॉट सं0- 16 .पी0<br>रकवा- 4.05 एकड़                                                       | Upto<br>07.06.2020 |
| 36 | श्री बसंत स्वर्णकार, ग्राम- देवीपुर, पो0- खेसमी, कोडरमा।                                                                                        | मौजा- खेसमी उर्फ पुरनानगर, प्लॉट सं0- 45.पी0<br>रकवा- 5.00 एकड़                                                        | Upto<br>16.10.2020 |
| 37 | मेसर्स हरि ओम मिनिरल्स, प्रो0 विरेन्द्र प्र0 मेहता, कोडरमा।                                                                                     | मौजा- खरखार, प्लॉट सं0- 2665, 2666 अंश, 2667, 2673 अंश, 2674 अंश, 2675 अंश, 2677 अंश, 2678 एवं 2679<br>रकवा- 0.60 एकड़ | Upto<br>20.11.2020 |
| 38 | मेसर्स दुर्गा स्टोन चिप्स, पार्ट0- श्री ईश्वर साव, ग्राम+पो0- पुरनाडीह, जिला- कोडरमा।                                                           | मौजा- पुरनाडीह, प्लॉट सं0- 2803 अंश, 2804 से 2806 एवं 2813 अंश, रकवा- 0.52 एकड़                                        | Upto<br>12.02.2021 |
| 39 | मेसर्स बागमति दामोदर, प्रो0- मानवेन्द्र झा, ग्राम+पो0- डोमचौंच, जिला- कोडरमा।                                                                   | मौजा- पुरनाडीह, प्लॉट सं0- 173,<br>रकवा- 0.37 एकड़                                                                     | Upto<br>27.07.2021 |
| 40 | मेसर्स जय माता रानी स्टोन, पार्ट0- श्री राम कुमार पंडित                                                                                         | मौजा- डोमचौंच, प्लॉट सं0- 85, 86, 87 से 91 एवं 101,<br>रकवा- 0.92 एकड़                                                 | Upto<br>06.10.2021 |

9



Chapter -X    Details of Royalty or Revenue received in last three years;

UNIT in lakh

Table 10 Royalty or Revenue received in last three years

| Minor Mineral | 2023-2024 | 2024-25 | 2025-26 |
|---------------|-----------|---------|---------|
| Stone         | 1184.08   | 1307.02 | 1173.48 |

Source: District Mining Office, Koderma



Handwritten signature or initials.

Chapter - XI Details of Production of Minor Mineral (Stone) in last three years; (in CFT)

Table 11 of Production of Minor Mineral in last three years

| Minor Mineral | 2023-2024   | 2024-25     | 2025-26     |
|---------------|-------------|-------------|-------------|
| Stone         | 2,06,27,700 | 2,69,54,200 | 1,87,91,842 |

Source: District Mining Office, Koderma



of



Chapter - XII Mineral Map of the District;

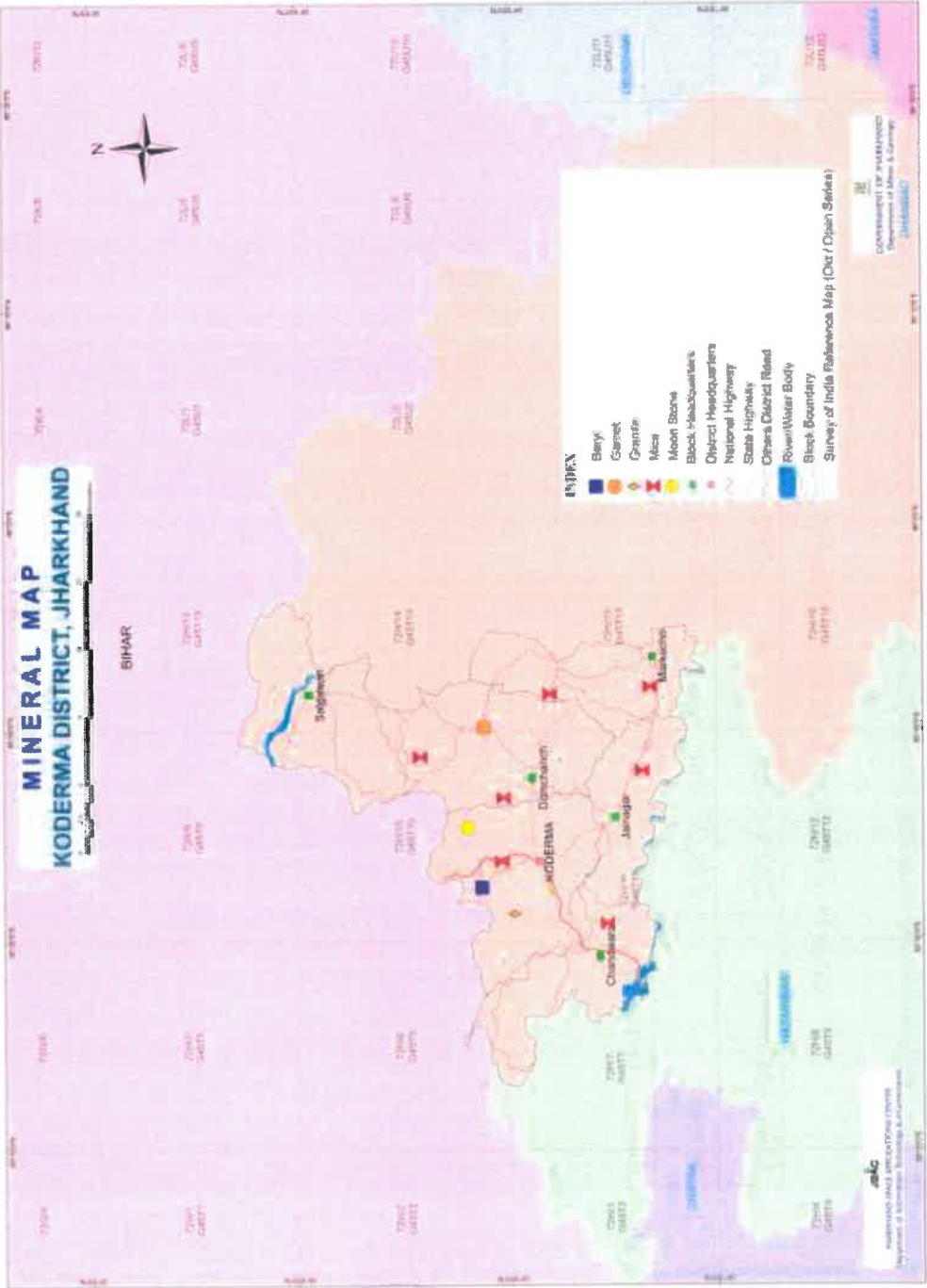


Figure 6 Mineral map of the district (Source - JSAC)

# Koderma District Survey Report for Stone

## Chapter - XIII List of Letter of Intent (LOI) Holders in the District along with its validity as per the following format

Table 12 Letter of Intent (LOI) Holders in the District

| 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               | माँ शांति स्टोन क्वायरी      | पार्टनर- 1. श्री रंजीत कुमार, पिता- स्व0 बैधनाथ साव, ग्राम- ढाब रोड़, डोमचौच, पो0- डोमचौच, थाना- डोमचौच, जिला- कोडरमा, एवं 2. श्री राजेश गुप्ता, पिता- श्री रोहित साव, साकिन- 216 / डी0223, लक्ष्मी चैबर, लक्ष्मीपुर, पो0- लक्ष्मीपुर, थाना- सकरपुर, दिल्ली                                                                                                                                                                                                 | 460/M, Dated - 11/03/2024               | 2.45 Acre                           |                 | Non-Captive                |                                                     |
| 2       | Stone               | मेसर्स माँ तारा स्टोन वर्क्स | पार्टनर- 1. श्री नकुल मंडल, पिता- श्री फुलचन्द मंडल, ग्राम- पचम्बा, पो0- मंदरामो, थाना- सरीया, जिला- गिरिडीह, 2. श्री सुरज कुमार, पिता- श्री राम किशोर मेहता, ग्राम- नावाडीह, पो0- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा, 3. श्री राजनिति सिंह, पिता- श्री इन्द्रजीत सिंह, ग्राम- देदौर, पो0- बख्तियारपुर, थाना- बख्तियारपुर, जिला- पटना (बिहार) एवं 4. श्री अखिलेश मंडल, पिता- श्री भोलाल मंडल, ग्राम- औरवाटांड, पो0- मन्दरामो, थाना- सरीया, जिला- गिरिडीह। | 1467/M, Dated - 01/07/2023              | 4.21 Acre                           |                 | Non-Captive                |                                                     |



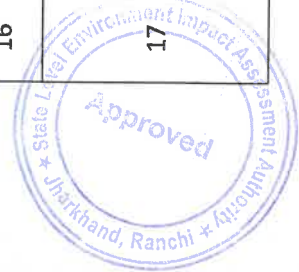
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## Koderma District Survey Report for Stone

|   |       |                                                   |                                                                                                                     |                            |           |  |             |  |
|---|-------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------------------------|-----------|--|-------------|--|
| 3 | Stone | M/s Hill View Mining                              | प्रो०- श्री निलेश रंजन, पिता- श्री सरयु प्रसाद मेहता, ग्राम- बेहराडीह, पो०- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा।   | 1003/M, Dated- 19/05/2023  | 5.60 Acre |  | Non-Captive |  |
| 4 | Stone | श्री रमेश प्रसाद अग्रवाल एवं श्री रिपेन चौधरी     | पुरानी बाजार, गोंदापुर, नवादा (बिहार)                                                                               | 1887/M, Dated - 09/12/2022 | 3.28 Acre |  | Non-Captive |  |
| 5 | Stone | M/s Ashirwad Stone Mining.                        | पार्टनर- 1. श्री निलेश रंजन एवं 2. श्री रामेश्वर यादव                                                               | 520/M, Dated- 16.03.2024   | 1.11 Acre |  | Non-Captive |  |
| 6 | Stone | मेसर्स पवित्र क्वारी एक्सप्लोसिव प्राइवेट लिमिटेड | पार्टनर- 1. श्री राजकुमार दास, 2. श्री सुजीत मेहता, 3. श्री रवि कुमार निराला, 4. श्री अशोक यादव, 5. श्री गौतम कुमार | 1185/M, Dated- 11.07.2024  | 7.11 Acre |  | Non-Captive |  |
|   | Stone | मेसर्स रविन्द्र माईनिंग प्राइवेट लिमिटेड          | डायरेक्टर- श्री राजकुमार दास                                                                                        | 1269/M, Dated - 18.07.2024 | 5.17 Acre |  | Non-Captive |  |
| 8 | Stone | मेसर्स श्री राम स्टोन वर्क्स                      | 1. श्री अशोक यादव, 2. श्री विकास कुमार यादव, 3. श्री रवि कुमार निराला, 4. श्री गौतम कुमार                           | 1314/M, Dated- 24.07.2024  | 1.72 Acre |  | Non-Captive |  |
| 9 | Stone | एम० एस० शिवशंकर मिनरल्स                           | पार्टनर- 1. श्री विकास कुमार यादव, 2. श्री ब्रिजेंद्र कुमार                                                         | 95/M, Dated- 13.01.2024    | 2.72 Acre |  | Non-Captive |  |

## Koderma District Survey Report for Stone

|    |       |                                                                                     |                                                                                                                                                                           |                              |                |  |             |  |
|----|-------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------|--|-------------|--|
| 10 | Stone | मेसर्स<br>जयबजरंग<br>स्टोन                                                          | पार्टनर- 1. श्री मनोज कुमार, 2. श्री<br>सुजीत कुमार                                                                                                                       | 51/M, Dated-<br>05.02.2025   | 1.48 Acre      |  | Non-Captive |  |
| 11 | Stone | श्री एकलव्य<br>कुमार                                                                | ग्राम- गौडी पहाड़ी के पास पथरा<br>इंगलिष, पो0- ओढनपुर, थाना-<br>मुफ्फसील, जिला- नवादा, राज्य-<br>बिहार।                                                                   | 57/M, Dated-<br>05.02.2025   | 2.65 Acre      |  | Non-Captive |  |
| 12 | Stone | M/s<br>Friends<br>Mining Unit                                                       | प्रो0- श्री विवेक दीप ओम                                                                                                                                                  | 70/M, Dated-<br>08.02.2025   | 2.4825<br>Acre |  | Non-Captive |  |
| 13 | Stone | M/S SRS<br>Enterprises                                                              | प्रो0 श्री अतुल शेखर                                                                                                                                                      | 71./M, Dated-<br>08.02.2025  | 2.76 Acre      |  | Non-Captive |  |
| 14 | Stone | Smt. Usha<br>Gupta                                                                  | Smt. Usha Gupta                                                                                                                                                           | 735/M Dated<br>- 28.07.2025  | 2.28 Acre      |  | Non-Captive |  |
| 15 | Stone | श्री मोहित<br>संघइ                                                                  | प्लेट नं0- 2डी0, रॉची- पटना रोड़,<br>काली मंदिर के पास झुमरीतिलैया, वार्ड<br>नं0- 09, पो0- झुमरीतिलैया, जिला-<br>कोडरमा।                                                  | 689/M dated<br>16.07.2025    | 2.02 Acre      |  | Non-Captive |  |
| 16 | Stone | मारुती स्टोन<br>मिनरल्स                                                             | पार्ट0- 1. श्री अशोक राणा, 2. सुमीत<br>सौरभ, पिता- श्री अजय कुमार, 3. श्री<br>कुमार गौरव                                                                                  | 1830/M Dated<br>- 06.11.2024 | 7.21 Acre      |  | Non-Captive |  |
| 17 | Stone | श्री राम स्टोन<br>वक्स<br>पार्टनर- 1.<br>श्री विनोद<br>कुमार 2. श्री<br>निलेश कुमार | 1 <sup>ण</sup> ग्राम- नगरखारा (जलवाबाद),<br>पो0+थाना- कोडरमा, जिला- कोडरमा, ए<br>2 <sup>ण</sup> ग्राम- मटिहानी, पो0- मटिहानी,<br>थाना- मटिहानी, जिला- बेगुसराय<br>(बिहार) | 689/M dated -<br>16.07.2025  | 1.46 Acre      |  | Non-Captive |  |



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## Koderma District Survey Report for Stone

|    |       |                                                                                                                                           |                                                                                                                           |                          |           |  |             |  |
|----|-------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------|-----------|--|-------------|--|
| 18 | Stone | 1. श्री विकास कुमार मेहता, 2. श्री रंजीत कुमार राणा                                                                                       | ग्राम- तेतरियाडीह, पो0- डोमचौच, थाना- डोमचौच, जिला- कोडरमा 2. ग्राम- पुरनाडीह, पो0- फुलवरिया, थाना- नवलशाही, जिला- कोडरमा | 896/M Dated - 31.05.2024 | 2.17 Acre |  | Non-Captive |  |
| 19 | Stone | मेसर्स कृष्णा स्टोन माईन्स पार्टनर- 1. श्री सम्राट सिंह एवं 2. श्री अशोक कुमार यादव, मेसर्स राष्ट्रीय स्टोन चिप्स, प्रो0-श्री सम्राट सिंह | ग्राम- थाम, पो0-ढाब थाम, थाना- चन्दवारा, जिला-कोडरमा 2. ग्राम-झुमरी, पो0- करमा, थाना- तिलैया, जिला- कोडरमा                | 70/M dated - 21.01.2026  | 0.98 Acre |  | Non-Captive |  |
| 20 | Stone | मेसर्स राष्ट्रीय स्टोन चिप्स, प्रो0-श्री सम्राट सिंह                                                                                      | ग्राम- थाम, पो0-ढाब थाम, थाना- चन्दवारा, जिला- कोडरमा                                                                     | 69/M dated - 21.01.2026  | 0.66 Acre |  | Non-Captive |  |



# Koderma District Survey Report for Stone

Table 13 खनन पट्टा की स्वीकृति हेतु दाखिल आवेदन की विवरणी।

| क्र० | आवेदक का नाम एवं पता                                                                                                                                                                                                                      | आवेदित क्षेत्र की विवरणी                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | सृष्टि वर्क्स प्राइवेट लिमिटेड, Authorised Signatory- श्री रजनीश कुमार, पिता- श्री जितेन्द्र सिंह, ग्राम- लाखोपुर कोली, पो- फतेहपुर, थाना- गौरीयक, जिला- पटना (बिहार)                                                                     | थाना- मरकच्चो, मौजा- मरकच्चो के खाता सं०- 285, 342, 1616, 1617, 286 451 एवं 1406, प्लॉट सं०- 11574, 11633 अंश, 11692, 11632, 11687, 11575, 11630, 11705, 11706, 11760, 11708, 11651, 11652, 11653, 11654, 11655, 11656, 11657, 11658, 11659, 11660, 11683, 11696, 11697, 11698, 11699, 11690, 11691, 11693, 11694, 11709, 11710, 11711, 11712, 11713, 11714, 11715, 11716, 11717, 11718, 11720, 11721, 11722, 11695, 11629, 11631, 11634, 11635, 11636, 11637, 11638, 11639, 11640, 11670, 11671, 11672, 11673, 11674, 11681, 11682, 11700, 11701, 11702, 11703, 11704, 11728, 11576, 11684, 11685, 11686, 11688, 11689, 11650 एवं 11719 के रकवा- 6.68 एकड़ |
| 2    | 1. श्री महेश प्रसाद साव, पिता- स्व० राम प्रसाद साव, ग्राम- महथाडीह, पो०- डोमचौच, थाना- डोमचौच, जिला- कोडरमा एवं 2. श्री हिरालाल यादव, पिता- श्री वेदु प्रसाद यादव, ग्राम- पुरनानगर, पो०- खेशमी उर्फ पुरनानगर, थाना- नवलशाही, जिला- कोडरमा | थाना- नवलशाही, मौजा- खेशमी उर्फ पुरनानगर के खाता सं०- 24 एवं 52, प्लॉट सं०- 2761, 2762 एवं 2763 अंश के रकवा- 2.00 एकड़                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3    | मेसर्स तिरुपति स्टोन चिप्स, पार्टनर- 1. गोविन्द मेहता, 2. श्री आशिष कुमार चौरसिया, 3. श्री सुभाष कुमार, 4. श्री विवेक दीप्त ओम, 5. श्री नरेश कुमार यादव, एवं 6. श्री आलोक कुमार                                                           | थाना- जयनगर, मौजा- डुहुआटोला के खाता सं०- 67, 89, 97, 18, 09 एवं 60, प्लॉट सं०- 2083 अंश, 2084 अंश, 2096, 2097, 2098, 2099, 2100 के रकवा- 3.9567 एकड़                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 4    | जय माँ वैष्णो देवी स्टोन माईन्स, प्रो०- श्री सुशील कुमार मेहता, पिता- श्री बालमुकुन्द मेहता, ग्राम- गुदर, पो०+थाना- डोमचौच, जिला- कोडरमा                                                                                                  | थाना- चन्दवारा, मौजा- थाम के खाता सं०- 25, 91, 55, 102 एवं 43, प्लॉट सं०- 124 अंश, 129 अंश, 130, 131, 132 अंश, 133 अंश, 134 अंश एवं 138 अंश के रकवा- 2.72 एकड़                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



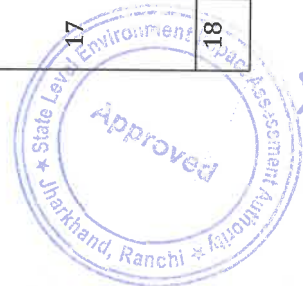


# Koderma District Survey Report for Stone

|    |                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                               |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5  | मेसर्स श्री गोवर्धन स्टोन, पार्टनर- 1. श्री वीर कुमार गुप्ता, पिता- श्री विरेन्द्र साव, ग्राम- महथाडीह, पो0- डोमचौच, थाना- डोमचौच, जिला- कोडरमा, 2. श्री रणजीत कुमार सिंह, पिता- स्व0 शिव कुमार सिंह, ग्राम- गझंडी, पो0- गझंडी, थाना- तिलैया, जिला- कोडरमा 3. श्री विवेक कुमार, पिता- श्री सहदेव यादव, ग्राम- पुरनानगर, पो0- खेषमी, थाना- मरकच्चो, जिला- कोडरमा | मौजा- पुरनानगर के खाता सं0- 52 एवं 74, प्लॉट सं0- 2756, 2758 एवं 2394 के रकवा- 2.00 एकड़                                                                      |
| 6  | पुरनानगर स्टोन माईन्स, पार्ट- 1. श्री अनिकेत आनन्द, पिता- श्री सुरेश यादव, ग्राम- गजुआटांड नियर हनुमान मंदिर, पो0- धनबाद, जिला- धनबाद, 2. आजाद मियाँ, पिता- पुरण मियाँ, ग्राम- पुरनानगर, पो0- पुरनानगर, थाना- नवलशाही, जिला- कोडरमा                                                                                                                             | मौजा- खेषमी उर्फ पुरनानगर के खाता सं0- 2, प्लॉट सं0- 2091 एवं 2389 अंश के रकवा- 1.73 एकड़                                                                     |
| 7  | श्री विनोद कुमार, पिता- स्व0 त्रिलोकी राम, ग्राम- नगरखारा (जलवाबाद), पो0+थाना- कोडरमा, जिला- कोडरमा                                                                                                                                                                                                                                                             | मौजा- डहुआटोला के खाता सं0- 71, 30, 31 एवं 25, प्लॉट सं0- 2278 अंश, 2181, 2182 अंश, 2184 अंश, 2279 एवं 2180 अंश के रकवा- 7.2150 एकड़                          |
| 8  | श्रीमती रजनी कुमारी, पति- श्री अमन कुमार, ग्राम- अकबरपुर, पो0- अकबरपुर, जिला- भागलपुर (बिहार)                                                                                                                                                                                                                                                                   | मौजा- डहुआटोला के खाता सं0- 6, 46, 52, 18, 60 एवं 89, प्लॉट सं0- 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292 एवं 2293 के कुल रकवा- 3.115 एकड़        |
| 9  | मेसर्स झारखण्ड ब्लैक स्टोन माईन्स, प्रो0- श्री संजय कुमार राय, पिता- स्व0 तारणी प्रसाद राय, ग्राम- मसनोडीह, पो0- मसनोडीह, थाना- डोमचौच, जिला- कोडरमा                                                                                                                                                                                                            | मौजा- पुरनाडीह के खाता सं0- 182, 180, 12, 80 एवं 226, प्लॉट सं0- 180 अंश, 244 अंश, 179, 178 अंश एवं 248 अंश के रकवा- 2.00 एकड़                                |
| 10 | मेसर्स कैप्टन आनन्द माईन्स एण्ड मिनरल्स, श्री कैप्टन आनन्द, पिता- स्व0 बनवारी लाल, ग्राम+पो0- झुमरीतिलैया, थाना- तिलैया, जिला- कोडरमा                                                                                                                                                                                                                           | थाना- जयनगर, मौजा- भिन्कुडीह, खाता सं0- 17, प्लॉट सं0- 46 एवं 47 अंश, रकवा- 1.66 एकड़                                                                         |
| 11 | रोबीन मिनरल्स प्रा0 लि0, प्रो0- श्री महेन्द्र कुमार, पिता- स्व0 राम प्रसाद सिंह, साकिन- सुभाष चौक, चित्रगुप्त नगर, पो0- झुमरीतिलैया, थाना- तिलैया, जिला- कोडरमा                                                                                                                                                                                                 | थाना- डोमचौच, मौजा- लेम्बुईया, खाता सं0- 02, 04 एवं 05, प्लॉट सं0- 93 अंश, 94, 98, 99, 100, 101 अंश, 102, 103 अंश, 105, 106, 108 एवं 112 अंश, रकवा- 3.70 एकड़ |

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| 12 | माँ लक्ष्मी स्टोन मिनरल्स, पार्टनर- श्री मोहित संघई, पिता- श्री शिव रतन संघई, देवश्री कॉम्पलेक्स, स्टेशन रोड़, पो0- झुमरीतिलैया, थाना- तिलैया, जिला- कोडरमा                                                                                                                                                | थाना- नवलशाही, मौजा- रायडीह के खाता सं0- 100, 41, 36, 35, 130, प्लॉट सं0- 245, 242, 303, 304 एवं 305 अंश के रकवा- 6.7850 एकड़ |
| 13 | माँ गायत्री स्टोन मिनरल्स, पार्टनर- श्री मोहित संघई, पिता- श्री शिव रतन संघई, देवश्री कॉम्पलेक्स, स्टेशन रोड़, पो0- झुमरीतिलैया, थाना- तिलैया, जिला- कोडरमा                                                                                                                                                | थाना- नवलशाही, मौजा- रायडीह, खाता सं0- 91, 08 एवं 114, प्लॉट सं0- 717, 718 एवं 720, रकवा- 5.20 एकड़                           |
| 14 | श्री राम स्टोन वर्क्स, पार्टनर- 1. श्री विनोद कुमार, पिता- स्व0 त्रिलोकी राम, ग्राम- नगरखारा (जलवाबाद), पो0+थाना- कोडरमा, जिला- कोडरमा, 2. श्री निलेश कुमार, पिता- श्री नरेश सिंह, ग्राम- मटिहानी, पो0- मटिहानी, थाना- मटिहानी, जिला- बेगुसराय (बिहार)                                                     | थाना- जयनगर मौजा- गुरगुडीह खाता सं0- 02, प्लॉट सं0- 28 अंश रकवा- 1.46 एकड़                                                    |
| 15 | मेसर्स जय माता दी स्टोन वर्क्स, पार्टनर- 1. श्री विनोद कुमार, पिता- स्व0 त्रिलोकी राम, ग्राम- नगरखारा (जलवाबाद), पो0+थाना- कोडरमा, जिला- कोडरमा एवं 2. श्री राजेन्द्र मेहता, पिता- श्री छोटी मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो0- डोमचौच, जिला- कोडरमा                                                | थाना- नवलशाही, मौजा- रायडीह, खाता सं0- 138, 163, 59 एवं 08, प्लॉट सं0- 07 अंश, 08 अंश, 30 एवं 31, रकवा- 2.8925 एकड़           |
| 16 | 1. श्री संजय कुमार मेहता, पिता- श्री कृष्ण मुरारी मेहता, 2. श्री प्रभात कुमार मेहता, पिता- स्व0 लक्ष्मण मेहता, दोनों ग्राम+पो0- फुलवरिया, थाना- नवलशाही, जिला- कोडरमा एवं 3. श्री रसबकांत मेहता, पिता- श्री विनोद कुमार मेहता, 228, सामंतो काली मंदिर के पास, पो0- झुमरीतिलैया, थाना- तिलैया, जिला- कोडरमा | थाना- नवलशाही, मौजा- पहाड़पुर के खाता सं0- 27 एवं 6, प्लॉट सं0- 557 अंश, 558, 559 अंश एवं 560 अंश के कुल रकवा- 1.7550 एकड़    |
| 17 | श्री सम्राट सिंह, पिता- स्व0 प्रदीप सिंह, ग्राम- थाम, पो0- ढाब थाम, थाना- चन्दवारा, जिला- कोडरमा                                                                                                                                                                                                           | थाना- चन्दवारा, मौजा- थाम खाता सं0- 11 एवं 32, प्लॉट सं0- 4612 / 5230 एवं 5229 रकवा- 0.66 एकड़                                |
| 18 | मेसर्स कृष्णा स्टोन माईन्स, पार्टनर- 1. श्री सम्राट सिंह, पिता- स्व0 प्रदीप                                                                                                                                                                                                                                | थाना- चन्दवारा,                                                                                                               |



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|    | सिंह, ग्राम- थाम, पो0- ढाब थाम, थाना- चन्दवारा, जिला- कोडरमा एवं 2. श्री अशोक कुमार यादव, पिता- स्व0 गुल्ली यादव, ग्राम- झुमरी, पो0- करमा, थाना- तिलैया, जिला- कोडरमा                                                                                  | मौजा- थाम<br>खाता सं0- 65, 05, 87 एवं 60,<br>प्लॉट सं0- 4612/5236, 4612/5237, 4612/5238 एवं<br>4612/5239 अंश<br>रकबा- 0.98 एकड़                                          |
| 19 | M/s Globalized Stone, प्रो0- संतोष कुमार चौबे, पिता- स्व0 सिताराम चौबे, प्लॉट नं0- ए 1410, मैक्सबिल्स ग्रांड किंग, सेक्टर 75, नोएडा, गौतम बुद्ध नगर, उत्तर प्रदेश, पिन- 201301                                                                         | थाना- नवलशाही,<br>मौजा- पुरनाडीह<br>खाता सं0- 02, 06, 158 एवं 176,<br>प्लॉट सं0- 167, 168, 175, 176, 172 एवं 170<br>रकबा- 3.905 एकड़                                     |
| 20 | श्री राम स्टोन वर्क्स, पार्टनर- 1. श्री विनोद कुमार, पिता- स्व0 त्रिलोकी राम, ग्राम- नगरखारा (जलवाबाद), पो0+थाना- कोडरमा, जिला- कोडरमा, 2. श्री निलेश कुमार, पिता- श्री नरेश सिंह, ग्राम- मटिहानी, पो0- मटिहानी, थाना- मटिहानी, जिला- बेगुसराय (बिहार) | थाना- जयनगर<br>मौजा- गुरगुडीह<br>खाता सं0- 02, प्लॉट सं0- 28 अंश<br>रकबा- 1.46 एकड़                                                                                      |
| 21 | श्रीमती रजनी कुमारी, पति- श्री अमन कुमार, ग्राम+पो0- अकबरपुर, जिला- भागलपुर, (बिहार)                                                                                                                                                                   | थाना- जयनगर,<br>मौजा- उहुआटोला<br>खाता सं0- 6, 46, 52, 18, 60 एवं 89,<br>प्लॉट सं0- 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292 एवं<br>2293<br>रकबा- 3.115 एकड़ |
| 22 | श्री मोहित संघई, पिता- श्री शिव रतन संघई, प्लॉट नं0- 2 डी0, रॉची- पटना रोड, काली मंदिर के पास झुमरीतिलैया, वार्ड नं0- 09, पो0- झुमरीतिलैया, जिला- कोडरमा                                                                                               | थाना- चन्दवारा,<br>मौजा- थाम<br>खाता सं0- 114, 113, 15, 67 एवं 83,<br>प्लॉट सं0- 35 अंश, 36 अंश, 37 अंश, 38 अंश एवं 39 अंश<br>रकबा- 1.613 एकड़                           |
| 23 | Aryan Construction, प्रो0- श्री रविन्द्र कुमार सिंह, पिता- श्री सुरेन्द्र सिंह, ग्राम+पो0- आमस, थाना- आमस, जिला- गया, राज्य- बिहार।                                                                                                                    | थाना- कोडरमा<br>मौजा- सलैया<br>खाता सं0- 63, प्लॉट सं0- 2458 अंश                                                                                                         |

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| 24 | श्रीमती उषा गुप्ता, पति- श्री रामेश्वर प्रसाद साव, ग्राम- महथाडीह, पो0-<br>डोमचौच, जिला- कोडरमा।                                                                                                                                                                                                                                             | मौजा- तोलखार<br>खाता सं0- 10<br>प्लॉट सं0- 1<br>रकवा- 2.28 एकड़                                                                                                           |
| 25 | 1. श्री विनोद कुमार, पिता- स्व0 त्रिलोकी राम, ग्राम- नगरखारा<br>(जलवाबाद), पो0+थाना- कोडरमा, जिला- कोडरमा एवं 2. श्री राजेन्द्र<br>मेहता, पिता- श्री छोटी मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो0-<br>डोमचौच, जिला- कोडरमा                                                                                                                  | थाना- नवलशाही,<br>मौजा- रायडीह<br>खाता सं0- 138, 163, 59 एवं 08,<br>प्लॉट सं0- 07 अंश, 08 अंश, 30 एवं 31<br>रकवा- 2.8925 एकड़                                             |
| 26 | 1. श्री सुजीत मेहता, पिता- स्व0 बाबुलाल मेहता, ग्राम- महतवनीया महुआ<br>महेशपुर, पो0- डोमचौच, जिला- कोडरमा, 2. श्री निलेश रंजन, पिता- श्री<br>सरयु प्रसाद मेहता, ग्राम- बेहराडीह, पो0- बेहराडीह, थाना- डोमचौच,<br>जिला- कोडरमा एवं 3. श्री राजेन्द्र मेहता, पिता- श्री छोटी मेहता, ग्राम-<br>महतवनीया महुआ महेशपुर, पो0- डोमचौच, जिला- कोडरमा | थाना- जयनगर,<br>मौजा- गुडगुडी<br>खाता सं0- 01 एवं 02,<br>प्लॉट सं0- 20 अंश एवं 21 अंश<br>रकवा- 5.54 एकड़                                                                  |
| 27 | श्री राजकुमार दास, पिता- स्व0 पवित्र किशोर दास,<br>साकिन- 204, सोनाली अपार्टमेन्ट, हनुमान नगर, बुटी मोड़, बरियातु, राँची<br>एवं श्री सुजीत मेहता, पिता- स्व0 बाबुलाल मेहता, ग्राम- महतवनीया महुआ<br>महेशपुर, पो0- डोमचौच, जिला- कोडरमा।                                                                                                      | थाना- डोमचौच,<br>मौजा- पारहो<br>खाता सं0- 60, 62, 65, 68 एवं 85,<br>प्लॉट सं0- 376, 377, 388, 390 अंश, 392, 395, 437, 438,<br>439, 441 अंश एवं 442 अंश<br>रकवा- 5.60 एकड़ |
| 28 | श्री मोहित संघई, पिता- श्री शिव रतन संघई, प्लॉट नं0- 2डी0, राँची-<br>पटना रोड़, काली मंदिर के पास झुमरीतिलैया, वार्ड नं0- 09, पो0-<br>झुमरीतिलैया, जिला- कोडरमा                                                                                                                                                                              | थाना- जयनगर,<br>मौजा- डहुआटोला<br>खाता सं0- 30,<br>प्लॉट सं0- 2183 अंश एवं 2184 अंश<br>रकवा- 2.02 एकड़                                                                    |



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| 29 | श्रीमती उषा गुप्ता, पति- श्री रामेश्वर प्रसाद साव, ग्राम- महथाडीह, पो0- डोमचौच, जिला- कोडरमा।                                                                                                                                                    | मौजा- तोलखार एवं खेशमी उर्फ पुरानानगर<br>खाता सं0- 10 एवं 104<br>प्लॉट सं0- 1 एवं 2056 अंश<br>रकबा- 2.48 एकड़                                                                        |
| 30 | मेसर्स साहु स्टोन माईन, प्रो0- जाहिद हुसैन, पिता- मो0 सईद, साकिन- 32, नईटांड, जलवाबाद, पो0- कोडरमा, थाना- कोडरमा, जिला- कोडरमा                                                                                                                   | मौजा- पुरनाडीह<br>खाता सं0- 109, 17, 314, 87 एवं 94,<br>प्लॉट सं0- 457, 458, 506, 507, 508, 510, 527, 531,<br>532, 533, 534, 535, 536, 528, 525, 512, 518 एवं 519<br>रकबा- 2.42 एकड़ |
| 31 | मेसर्स कर्मा बाबा स्टोन क्वाररी, पार्ट0- 1. श्री दयानंद मेहता, पिता- चमण मेहता, ग्राम+पो0- फुलवरिया, थाना- नवलशाही, जिला- कोडरमा, 2. श्री राजनिधि सिंह, पिता- श्री इन्द्रजीत सिंह, ग्राम- देदौर, पो0- बख्तियारपुर, थाना- बख्तियारपुर, जिला- पटना | मौजा- मरकच्चो<br>खाता सं0- 270, 1311, 181, 1324 एवं 1818,<br>प्लॉट सं0- 11552, 11554, 11536, 11531, 11534 अंश, 11538 एवं 11537<br>रकबा- 5.10 एकड़                                    |
| 32 | मेसर्स अमिजीत स्टोन माईनिंग, पार्टनर- 1. श्री सुजीत मेहता, पिता- स्व0 बाबुलाल मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो0- डोमचौच, जिला- कोडरमा एवं 2. श्री अमित कुमार, पिता- श्री दारोगा राय, डी0वी0सी0 कॉलोनी, पो0- हजारीबाग, जिला- हजारीबाग      | मौजा- पारहो<br>प्लॉट सं0- 448, 449, 453, 458, 452, 456 अंश, 455 एवं 460<br>रकबा- 6.12 एकड़                                                                                           |
| 33 | मेसर्स अमिजीत स्टोन माईनिंग, पार्टनर- 1. श्री सुजीत मेहता, पिता- स्व0 बाबुलाल मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो0- डोमचौच, जिला- कोडरमा एवं 2. श्री अमित कुमार, पिता- श्री दारोगा राय, डी0वी0सी0 कॉलोनी, पो0- हजारीबाग, जिला- हजारीबाग      | मौजा- पारहो<br>प्लॉट सं0- 390 अंश, 437, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 462, 463, 464 एवं 465<br>रकबा- 6.15 एकड़                                              |
| 34 | मेसर्स शिवगुरु मिनरल्स, पार्ट0- 1. श्री देवेन्द्र कुमार सिन्हा, पिता- श्री अर्जुन प्रसाद सिन्हा, 2. श्री धिरेन्द्र कुमार सिन्हा, पिता- श्री बहादुर सिंह, दोनों ग्राम- रायडीह, पो0- मसमोहना, जिला- कोडरमा।                                        | मौजा- रायडीह<br>खाता सं0- 22,<br>प्लॉट सं0- 746 अंश                                                                                                                                  |



# Koderma District Survey Report for Stone

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|    |                                                                                                                                                                                                                                                                                                                                                        | रकवा- 3.50 एकड़<br>मौजा- पथलकुदवा<br>खाता सं0- 01,<br>प्लॉट सं0- 50, 52, 53, 54, एवं 65<br>रकवा- 7.21 एकड़                                |
| 35 | मारुती स्टोन मिनरल्स, पार्ट0- 1. श्री अशोक राणा, पिता- स्व0 महादेव राणा, ग्राम- घरवरीयावर, पो0- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा, 2. सुमीत सौरभ, पिता- श्री अजय कुमार, ग्राम- नावाडीह, पो0+थाना- डोमचौच, जिला- कोडरमा, 3. श्री कुमार गौरव, पिता- श्री रामेश्वर सिंह, ग्राम- महावीर मुहल्ला, वार्ड नं0- 05, पो0- कोडरमा, थाना- कोडरमा, जिला- कोडरमा |                                                                                                                                           |
| 36 | 1. श्री निलेश रंजन, पिता- श्री सरयु प्रसाद मेहता, ग्राम- बेहराडीह, पो0- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा एवं 2. श्री राजकुमार दास, पिता- स्व0 पवित्र किशोर दास, साकिन- 204, सोनाली अपार्टमेंट, हनुमान नगर, बुटी मोड़, बरियातु, राँची                                                                                                               | मौजा- रायडीह<br>खाता सं0- 59,<br>प्लॉट सं0- 66 अंश<br>रकवा- 4.25 एकड़                                                                     |
| 37 | मेसर्स माँ स्टोन, प्रो0- श्री लारो मेहता, पिता- श्री हुलास मेहता, ग्राम- डोमचौच, थाना- डोमचौच, पो0- डोमचौच, जिला- कोडरमा                                                                                                                                                                                                                               | मौजा- खरखार<br>खाता सं0- 252, 309 एवं 45,<br>प्लॉट सं0- 773, 776, 777 एवं 775<br>रकवा- 1.53 एकड़                                          |
| 38 | मेसर्स रवीन्द्र माईनिंग प्राईवेट लिमिटेड, डॉयरेक्टर- श्री राजकुमार दास, पिता- स्व0 पवित्र किशोर दास, साकिन- 204, सोनाली अपार्टमेंट, हनुमान नगर, बुटी मोड़, बरियातु, राँची                                                                                                                                                                              | मौजा- खुहा<br>खाता सं0- 19, 47, 24, 46, 13 एवं 17, प्लॉट सं0- 653, 675, 673, 676, 690, 689, 652, 672, 674, 687 एवं 695<br>रकवा- 5.82 एकड़ |
| 39 | 1. श्री सुजीत मेहता, पिता- स्व0 बाबुलाल मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो0- डोमचौच, जिला- कोडरमा, 2. श्री निलेश रंजन, पिता- श्री सरयु प्रसाद मेहता, ग्राम- बेहराडीह, पो0- बेहराडीह, थाना- डोमचौच,                                                                                                                                                | मौजा- गुडगुडी<br>खाता सं0- 01 एवं 02.                                                                                                     |



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|    | जिला- कोडरमा एवं 3. श्री राजेन्द्र मेहता, पिता- श्री छोटी मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो0- डोमचौच, जिला- कोडरमा                                                                                                                                                                                                                                                                                                                                                                                                                                   | प्लॉट सं0- 20 अंश एवं 21 अंश<br>रकवा- 5.54 एकड़                                         |
| 40 | मेसर्स अषरफ़ी स्टोन वर्क्स, पार्टनर- 1. श्री वशिष्ठ कुमार, पिता- स्व0 बालकृष्ण मेहता, ग्राम- नावाडीह, पो0- डोमचौच, जिला- कोडरमा, 2. मो0 शाहीद अली, पिता- मुबारक अली, ग्राम- कुबरी, पो0- कुबरी, थाना- धनवार, जिला- गिरिडीह                                                                                                                                                                                                                                                                                                                                  | मौजा- खेशमी उर्फ पुरानानगर<br>खाता सं0- 129, प्लॉट सं0- 2057 अंश<br>कुल रकवा- 3.48 एकड़ |
| 41 | Aryan Construction, प्रो0- श्री रविन्द्र कुमार सिंह, पिता- श्री सुरेन्द्र सिंह, ग्राम+पो0- आमस, थाना- आमस, जिला- गया, राज्य- बिहार।                                                                                                                                                                                                                                                                                                                                                                                                                        | थाना- कोडरमा<br>मौजा- सलैया<br>खाता सं0- 63, प्लॉट सं0- 2458<br>रकवा- 5.58 एकड़         |
|    | मेसर्स पवित्र क्वायरी एक्सप्लोसिव प्राईवेट लिमिटेड, प्रो0- श्री राजकुमार दास, पिता- स्व0 पवित्र किशोर दास, साकिन- 204, सोनाली अपार्टमेंट, हनुमान नगर, बुटी मोड़, बरियातु, राँची                                                                                                                                                                                                                                                                                                                                                                            | थाना- जयनगर<br>मौजा- गुरगुडीह<br>खाता सं0- 01, प्लॉट सं0- 26 अंश<br>रकवा- 5.17 एकड़     |
| 43 | मेसर्स पवित्र क्वायरी एक्सप्लोसिव प्राईवेट लिमिटेड, पार्टनर- 1. श्री राजकुमार दास, पिता- स्व0 पवित्र किशोर दास, साकिन- 204, सोनाली अपार्टमेंट, द्वितीय तल्ला, हनुमान नगर, बुटी मोड़, बरियातु, राँची, 2. श्री सुजीत मेहता, पिता- स्व0 बाबुलाल मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो0- डोमचौच, जिला- कोडरमा, 2. श्री रवि कुमार निराला, पिता- स्व0 चितरंजन यादव, ग्राम- चटकरी, पो0- चलकुशा, जिला- हजारीबाग, 3. श्री अशोक यादव, पिता- श्री गोपाल यादव, ग्राम- इन्दरवा, पो0- इन्दरवा, जिला- कोडरमा एवं 4. श्री गौतम कुमार, पिता- श्री सुरेन्द्र प्रसाद, छाबडा | थाना- जयनगर<br>मौजा- गुरगुडीह<br>खाता सं0- 03,<br>प्लॉट सं0- 25 अंश<br>रकवा- 7.11 एकड़  |

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|    | गली, सामन्ता पैट्रोल पंप के पास, पो0- झुमरीतिलैया, जिला- कोडरमा                                                                                                                                                                                        |                                                                                                                                                         |
| 44 | श्री धनधाम सिंह, पिता- श्री उत्तम सिंह, ग्राम- लक्ष्मीपुर, पो0- फुलवरिया, थाना- नवलशाही, जिला- कोडरमा                                                                                                                                                  | थाना- नवलशाही<br>मौजा- लक्ष्मीपुर<br>खाता सं0- 24, प्लॉट सं0- 405 अंश<br>रकबा- 2.00 एकड़                                                                |
| 45 | श्री राम स्टोन वर्क्स, पार्टनर- 1. श्री विनोद कुमार, पिता- स्व0 त्रिलोकी राम, ग्राम- नगरखारा (जलवाबाद), पो0+थाना- कोडरमा, जिला- कोडरमा, 2. श्री निलेश कुमार, पिता- श्री नरेश सिंह, ग्राम- मटिहानी, पो0- मटिहानी, थाना- मटिहानी, जिला- बेगुसराय (बिहार) | थाना- जयनगर<br>मौजा- गुरगुडीह<br>खाता सं0- 02, प्लॉट सं0- 28 अंश<br>रकबा- 1.46 एकड़                                                                     |
| 46 | मेसर्स कृष्णा स्टोन माईन्स, पार्टनर- 1. श्री सम्राट सिंह, पिता- स्व0 प्रदीप सिंह, ग्राम- धाम, पो0- ढाब धाम, थाना- चन्दवारा, जिला- कोडरमा एवं 2. श्री अशोक कुमार यादव, पिता- स्व0 गुल्ली यादव, ग्राम- झुमरी, पो0- करमा, थाना- तिलैया, जिला- कोडरमा      | थाना- चन्दवारा, मौजा- धाम<br>खाता सं0- 65, 05, 87 एवं 60,<br>प्लॉट सं0- 4612 / 5236, 4612 / 5237, 4612 / 5238 एवं<br>4612 / 5239 अंश<br>रकबा- 0.98 एकड़ |
| 47 | M/s Friends Mining Unit, पार्टनर- 1. श्री नरेश कुमार यादव, पिता- श्री जगदीष यादव, एवं 2. श्री विवेक दीप्त ओम, पिता- श्री रामेश्वर राणा, दोनों ग्राम- धाम, पो0- ढाबधाम, थाना- चन्दवारा, जिला- कोडरमा                                                    | थाना- जयनगर,<br>मौजा- डहुआटोला<br>खाता सं0- 67, प्लॉट सं0- 2083 एवं 2084                                                                                |



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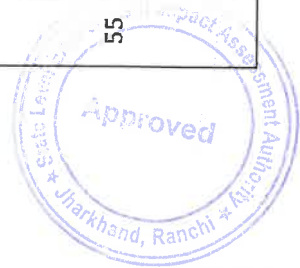
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|    |                                                                                                                                                                                                                                                         | रकवा- 3.04 एकड़                                                                                                                                                                                                                                   |  |
| 48 | श्री विनोद कुमार, पिता- स्व० त्रिलोकी राम, ग्राम- नगरखारा (जलवाबाद), पो०+थाना- कोडरमा, जिला- कोडरमा                                                                                                                                                     | थाना- नवलपाही<br>मौजा- रायडीह<br>खाता सं०- 59 एवं 08,<br>प्लॉट सं०- 30 अंश एवं 31<br>रकवा- 1.60 एकड़                                                                                                                                              |  |
| 49 | 1. श्री विकास कुमार मेहता, पिता- श्री देवेन्द्र प्रसाद मेहता, ग्राम- तेतरियाडीह, पो०- डोमचौच, थाना- डोमचौच, जिला- कोडरमा, 2. श्री रंजीत कुमार राणा, पिता- स्व० सरयु राणा, ग्राम- पुरनाडीह, पो०- फुलवरिया, थाना- नवलशाही, जिला- कोडरमा                   | मौजा- ताराटांड<br>खाता सं०- 32, 89, 45, 120, 116, 06, 97, 126, 71, 113, 55, 63, 54, 67, 40, 104, 103 एवं 107,<br>प्लॉट सं०- 4 अंश, 8, 9, 10, 11, 12, 13, 14, 15, 16 अंश, 17 अंश, 18 अंश, 19, 20, 21, 22, 37, 38, 1245 एवं 1254<br>रकवा- 2.17 एकड़ |  |
| 50 | M/s Ashirwad Stone Mining, पार्टनर- 1. श्री निलेश रंजन, पिता- श्री सरयु प्रसाद मेहता, ग्राम- बेहराडीह, पो०- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा, 2. श्री रामेश्वर यादव, पिता- श्री ठकुरी यादव, ग्राम- कुसमई, पो०- नवलशाही, थाना- नवलशाही, जिला- कोडरमा | मौजा- कुसमई<br>खाता सं०- 20, 21 एवं 29,<br>प्लॉट सं०- 1234, 1235, 1244, 1245, 1248, 1249, 1251, 1263, 1264, 1265, 1266, 1267, 1268, 1270 एवं 1271<br>रकवा- 1.11 एकड़                                                                              |  |
| 51 | श्री राजेश रौशन, पिता- श्री सरयु प्रसाद मेहता, ग्राम- बेहराडीह, पो०- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा                                                                                                                                               | मौजा- रायडीह<br>खाता सं०- 83, प्लॉट सं०- 3 अंश                                                                                                                                                                                                    |  |



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|    |                                                                                                                                                                                                                                                                                                                                                   | रकवा- 4.41 एकड़                                                                                                                                                       |  |
| 52 | श्री सम्राट सिंह, पिता- स्व० प्रदीप सिंह, ग्राम- थाम, पो०- डाब थाम, थाना- चन्दवारा, जिला- कोडरमा                                                                                                                                                                                                                                                  | थाना- चन्दवारा,<br>मौजा- थाम, खाता सं०- 11 एवं 32,<br>प्लॉट सं०- 4612/5230 एवं 5229<br>रकवा- 0.66 एकड़                                                                |  |
| 53 | M/s Friends Mining Unit, प्रो०- श्री विवेक दीप्त ओम, पिता- श्री रामेश्वर राणा, साकिन- दीपगढा, पो०- हजारीबाग, थाना- कोर, जिला- हजारीबाग।                                                                                                                                                                                                           | मौजा- थाम, खाता सं०- 104, 119, 52, 100, 109, 42 एवं 37,<br>प्लॉट सं०- 91 अंश, 97 अंश, 98 अंश, 101 अंश, 102 अंश, 103, 105 अंश, 107 अंश एवं 108 अंश,<br>रकवा- 2.54 एकड़ |  |
| 54 | मेसर्स तिरुपति बालाजी स्टोन वर्क्स, प्रो०- 1. श्री संदीप किशोर, पिता- श्री तारकेश्वर, ग्राम- बेहराडीह, पो०- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा एवं 2. श्री रंजीत कुमार साव, पिता- श्री वासुदेव साव, ग्राम- महथाडीह, पो०+थाना- डोमचौच, जिला- कोडरमा                                                                                              | थाना- नवलशाही<br>मौजा- रायडीह<br>खाता सं०- 08, 91 114 एवं 167,<br>प्लॉट सं०- 717 अंश, 718 अंश, 720 एवं 727 अंश, रकवा- 3.25 एकड़                                       |  |
| 55 | मौ तारा इन्टरप्राइजेज, पार्टनर- 1. श्री अशोक राणा, पिता- स्व० महादेव राणा, ग्राम- घरवरियाबर, पो०- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा, 2. श्री अभिरूप शौर्या, पिता- श्री विजय कुमार मेहता, ग्राम+पो०- डोमचौच, थाना- डोमचौच, जिला- कोडरमा, एवं 3. श्री सुमित सौरभ, पिता- श्री अजय कुमार, ग्राम- नावाडीह, पो०- डोमचौच, थाना- डोमचौच, जिला- कोडरमा। | थाना- जयनगर,<br>मौजा- पथलकुदवा<br>खाता सं०- 01,<br>प्लॉट सं०- 292                                                                                                     |  |



# Koderma District Survey Report for Stone

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|    |                                                                                                                                                                                                                                                                                                                                  | रकवा- 4.34 एकड़                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| 56 | ओम श्री साई एसोसिएट्स, प्रो0- श्री संजीत सिंह, पिता- श्री दशरथ सिंह, साकिन- सब्जी पट्टी, निन्हा, पो0- जमुडिया, थाना- जमुडिया, जिला- वर्धमान, राज्य- पश्चिम बंगाल                                                                                                                                                                 | मौजा- गुडगुडी<br>खाता सं0- 02,<br>प्लॉट सं0- 28 अंश<br>रकवा- 1.46 एकड़                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| 57 | ओम श्री साई एसोसिएट्स, प्रो0- श्री संजीत सिंह, पिता- श्री दशरथ सिंह, साकिन- सब्जी पट्टी, निन्हा, पो0- जमुडिया, थाना- जमुडिया, जिला- वर्धमान, राज्य- पश्चिम बंगाल                                                                                                                                                                 | थाना- जयनगर<br>मौजा- गुडगुडी<br>खाता सं0- 02,<br>प्लॉट सं0- 24 अंश<br>रकवा- 2.90 ½ एकड़                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| 58 | मेसर्स रॉयल माईनिंग एवं कन्स्ट्रक्शन, पार्टनर- 1. श्री राम लखन मेहता, पिता- स्व0 रौशनदेव मेहता, ग्राम+पो0- चेचकपी, थाना- बरकट्टा, जिला- हजारीबाग एवं 2. नुर आलम, पिता- स्व0 हाफिज नाशीरुद्दीन, ग्राम- मटवारी, इमलीचक, पो0- हजारीबाग, थाना- कोर्ला, जिला- हजारीबाग।                                                               | थाना- मरकच्चो, मौजा- मरकच्चो<br>खाता सं0- 285, 286, 451, 1406, 1616 एवं 1617, प्लॉट सं0- 11574, 11575, 11576, 11628, 11629, 11630, 11631, 11634, 11635, 11636, 11637, 11638, 11639, 11640, 11650, 11651, 11652, 11653, 11654, 11655, 11656, 11657, 11658, 11659, 11660, 11670, 11671, 11672, 11673, 11674, 11683, 11684, 11685, 11686, 11687, 11688, 11689, 11690, 11691, 11693, 11694, 11697, 11698, 11699, 11700, 11701, 11702, 11703, 11704, 11705, 11706, 11707, 11708, 11709, 11710, 11711, 11712, 11713, 11714, 11715, 11716, 11717, 11718 एवं 11719, रकवा- 5.10 एकड़ |  |
| 59 | 1. श्री सुजीत मेहता, पिता- स्व0 बाबुलाल मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो0- डोमचौच, जिला- कोडरमा, 2. श्री निलेश रंजन, पिता- श्री सरयु प्रसाद मेहता, ग्राम- बेहराडीह, पो0- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा एवं 3. श्री राजेन्द्र मेहता, पिता- श्री छोटी मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो0- डोमचौच, जिला- कोडरमा | थाना- जयनगर,<br>मौजा- गुडगुडी<br>खाता सं0- 01 एवं 03,<br>प्लॉट सं0- 30 एवं 31<br>रकवा- 4.56 एकड़                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |



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# Koderma District Survey Report for Stone

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| 60 | माँ तारा इन्टरप्राइजेज, पार्टनर- 1. श्री अशोक राणा, पिता- स्व० महादेव राणा, ग्राम- घरवरियाबर, पो०- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा, 2. श्री अभिरूप शौर्या, पिता- श्री विजय कुमार मेहता, ग्राम+पो०- डोमचौच, थाना- डोमचौच, कोडरमा, एवं 3. श्री सुमित सौरभ, पिता- श्री अजय कुमार, ग्राम- नावाडीह, पो०- डोमचौच, थाना- डोमचौच, कोडरमा। | थाना- जयनगर, मौजा- पथलकुदवा खाता सं०- 01, प्लॉट सं०- 292 रकवा- 4.34 एकड़                                                                                           |
| 61 | 1. श्री सुजीत मेहता, पिता- स्व० बाबुलाल मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो०- डोमचौच, जिला- कोडरमा, 2. श्री निलेश रंजन, पिता- श्री सरयु प्रसाद मेहता, ग्राम- बेहराडीह, पो०- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा एवं 3. श्री राजेन्द्र मेहता, पिता- श्री छोटी मेहता, ग्राम- महतवनीया महुआ महेशपुर, पो०- डोमचौच, जिला- कोडरमा       | थाना- जयनगर, मौजा- गुडगुडी खाता सं०- 01 एवं 03, प्लॉट सं०- 30 एवं 31 रकवा- 4.56 एकड़                                                                               |
| 62 | श्री बालाजी स्टोन, प्रो०- श्री मनोज कुमार मेहता, पिता- स्व० यदुनन्दन मेहता, ग्राम- बेहराडीह, पो०- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा                                                                                                                                                                                                 | थाना- नवलशाही मौजा- रायडीह खाता सं०- 41, 100 एवं 130, प्लॉट सं०- 242, 245 अंश एवं 305 अंश रकवा- 4.505 एकड़                                                         |
| 63 | खरखार स्टोन माईन्स, पार्टनर- 1. श्री महावीर यादव, पिता- स्व० गिरधारी मेहता, ग्राम- खरखार, पो०- नवलशाही, जिला- कोडरमा, 2. श्री कुलदीप यादव, पिता- महादेव महतो, ग्राम- खरखार, पो०- नवलशाही, जिला- कोडरमा, 3. श्री सुमन कुमार, पिता- श्री भीम लाल महतो, ग्राम- नावाडीह, पो०- डोमचौच, जिला- कोडरमा                                         | थाना- नवलशाही मौजा- खरखार खाता सं०- 24, 234 एवं 236, प्लॉट सं०- 3519 अंश, 3522 अंश, 3523, 3524, 3525, 3526, 3527, 3528, 3531, 3532, 3535 एवं 3536, रकवा- 1.03 एकड़ |
| 64 | मेसर्स कैप्टन आनन्द माईन्स एण्ड मिनरल्स, श्री कैप्टन आनन्द, पिता- स्व० बनवारी लाल, ग्राम+पो०- झुमरीतिलैया, थाना- तिलैया, जिला- कोडरमा                                                                                                                                                                                                  | थाना- जयनगर मौजा- भिन्कुडीह खाता सं०- 17, प्लॉट सं०- 46 एवं 47 अंश रकवा- 1.66 एकड़                                                                                 |
| 65 | श्री धनश्याम सिंह, पिता- श्री उत्तीम सिंह, ग्राम- लक्ष्मीपुर, पो०- फुलवरिया, थाना- नवलशाही, जिला- कोडरमा                                                                                                                                                                                                                               | थाना- नवलशाही मौजा- देवीपुर खाता सं०- 01, प्लॉट सं०- 01 रकवा- 4.30 एकड़                                                                                            |





# Koderma District Survey Report for Stone

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| 66 | श्री धनश्याम सिंह, पिता- श्री उत्तीम सिंह, ग्राम- लक्ष्मीपुर, पो0- फुलवरिया, थाना- नवलशाही, जिला- कोडरमा                                                                                                                                         | थाना- नवलशाही मौजा- लक्ष्मीपुर<br>प्लॉट सं0- 543 एवं 02 के खाता सं0- 31,<br>रकबा- 5.27 एकड़                                                                                                                                                                                   |
| 67 | मेसर्स पंचसूल मिनरल्स, पार्टनर- 1. श्री रामचन्द्र मेहता, पिता- श्री छोटेलाल मेहता, ग्राम- बीघा, पो0- फुलवरिया, थाना- नवलशाही, जिला- कोडरमा 2. श्री उदय कुमार, पिता- स्व0 शिवदानी सिंह, ग्राम- एकनार, पो0- धनवा, थाना- हिसुआ, जिला- नवादा (बिहार) | थाना- चन्द्रवारा, मौजा- थाम<br>खाता सं0- 47, 104, 52, 109, 43, 102, 22 एवं 37, प्लॉट सं0- 4612/5275, 4612/5276, 4612/5277, 4612/5278,<br>4612/5279, 4612/5280, 4612/5281, 4612/5282 एवं<br>4612/5283<br>रकबा- 3.68 एकड़                                                       |
| 68 | श्री अशोक कुमार सिंह, पिता- स्व0 पार्वती नारायण सिंह, ग्राम- नवलशाही, पो0- नवलशाही, थाना- नवलशाही, जिला- कोडरमा                                                                                                                                  | थाना- नवलशाही मौजा- खरखार<br>खाता सं0- 223, 320, 112, 61 एवं 97,<br>प्लॉट सं0- 743, 756, 757, 758, 759, 760, 761 एवं 763,<br>रकबा- 2.04 एकड़                                                                                                                                  |
| 69 | 1. श्री राजेश रौशन, पिता- श्री सरयु प्रसाद मेहता, ग्राम- बेहराडीह, पो0- बेहराडीह, थाना- डोमचौच, जिला- कोडरमा, 2. श्री अशीष कुमार मेहता, पिता- श्री अशोक कुमार मेहता, ग्राम- डोमचौच, पो0- डोमचौच, थाना- डोमचौच, जिला- कोडरमा                      | थाना- डोमचौच, मौजा- ताराटांड<br>खाता सं0- 25, 37, 32, 69, 54, 67, 55, 54, 10, 126, 32, 60,<br>6 एवं 76<br>प्लॉट सं0- 1060 अंश, 1061 अंश, 1064 अंश, 1065 अंश, 1066 अंश, 1068 अंश, 1073 अंश, 1074 अंश, 1075 अंश, 1076 अंश, 1077 अंश, 1078 अंश, 1080 एवं 1081<br>रकबा- 2.10 एकड़ |

## Koderma District Survey Report for Stone

**Table -13 Potential Resource Area proposed by Assistant Director (Geology), Koderma**

|    |                            |            |           |                                                                                                                                          |                                                                                                              |
|----|----------------------------|------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 1. | Purnanagar Stone Block -01 | Purnanagar | Markachho | (A) 24°24'27.22"<br>(B) 24°24'27.97"<br>(C) 24°24'27.61"<br>(D) 24°24'25.47"<br>(E) 24°24'24.47"                                         | 85°47'26.74"<br>85°47'27.19"<br>85°47'29.01"<br>85°47'31.71"<br>85°47'30.55"                                 |
| 2. | Purnanagar Stone Block -02 | Purnanagar | Markachho | (A) 24°25'21.48"<br>(B) 24°25'20.12"<br>(C) 24°25'21.43"<br>(D) 24°25'20.03"<br>(E) 24°25'18.06"<br>(F) 24°25'13.89"<br>(G) 24°25'16.96" | 85°47'39.98"<br>85°47'40.39"<br>85°47'45.60"<br>85°47'49.03"<br>85°47'46.24"<br>85°47'41.69"<br>85°47'33.52" |



## Koderma District Survey Report for Stone

### Chapter - XIV Total Mineral Reserve available in the District;

| Sl No. | Name of the Lessee                                    | Reserve    |
|--------|-------------------------------------------------------|------------|
| 1      | मेसर्स मारुती स्टोन वक्स                              | 217629.99  |
| 2      | 1. श्री महावीर यादव, 2. श्री सुरेन्द्र प्रसाद गुप्ता, |            |
| 3      | मेसर्स महादवे स्टोन वक्स                              | 400602     |
| 4      | रामजानकी स्टोन माईन्स,                                | 306572     |
| 5      | पुरनानगर स्टोन माईन्स                                 |            |
| 6      | Vinayak Stone Quarry                                  |            |
| 7      | श्री अमिताभ कुमार,                                    |            |
| 8      | 1. श्री निलेश रंजन एवं<br>2. श्री राजेश रौषन,         | 444893     |
| 9      | मेसर्स माँ जगदम्बा स्टोन वक्स                         | 1348137    |
| 10     | मेसर्स जय भीम स्टोन वक्स                              | 402871.73  |
| 11     | मेसर्स जय माँ चचालनी<br>स्टोन वक्स                    | 612482     |
| 12     | श्री मनोज कुमार मेहत                                  | 1235578.46 |
| 13     | झारखण्ड स्टोन माईन्स,                                 | 1238458    |
| 14     | झारखण्ड स्टोन वक्स                                    | 789369     |
| 15     | मेसर्स न्यू झारखण्ड स्टोन<br>माईन्स                   | 186813     |
| 16     | पवित्र ट्रेडिंग कम्पनी                                | 811890     |
| 17     | गौरा पत्थर माईन्स,                                    | 344088     |
| 18     | मेसर्स न्यू झारखण्ड स्टोन<br>माईन्स                   | 1462404    |
| 19     | अंजनी सुत माईनिंग एवं<br>मिनरल वर्क्स एलएलपी          | 1067859.45 |
| 20     | श्रीमती विमली देवी,                                   | 1185581.48 |
| 21     | मेसर्स पंचसूल मिनरल्स                                 | 369846     |
| 22     | मेसर्स गणपति मिनरल्स,                                 |            |
| 23     | मेसर्स आनन्द माईन्स एण्ड<br>मिनरल्स,                  | 815670     |

## Koderma District Survey Report for Stone

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|----|---------------------------------------------------------------|--------------------|
| 24 | शिव स्टोन माईनिंग                                             | 491692.55          |
| 25 | मेसर्स माँ दुर्गा स्टोन चिप्स                                 | 2493680.18         |
| 26 | माँ चंचालनी स्टोन मिनरल्स                                     | 1364939            |
| 27 | मेसर्स शिव पार्वती स्टोन क्वारी,                              | 882900             |
| 28 | मेसर्स मारुती मिनरल्स,                                        | 1179500            |
| 29 | मेसर्स जय माता रानी मिनरल्स                                   | 2471864            |
| 30 | 1. श्री रवि कुमार निराला 2. श्री अशोक यादव 3. श्री गौतम कुमार | 591381             |
| 31 | अशोक यादव 3. श्री गौतम कुमार                                  |                    |
| 32 | मेसर्स ओम साई स्टोन,                                          | 508809.6           |
| 33 | पवित्र क्वारी एक्सप्लोसिव प.10 लि0                            | 3082536            |
| 34 | झारखण्ड स्टोन माईन्स                                          | 283143.16          |
| 35 | M/s Hill View Mining,                                         | 872046             |
| 36 | जय माँ भद्रकाली स्टोन वक्स                                    | 127481             |
|    | <b>Total</b>                                                  | <b>30558182.98</b> |



## Koderma District Survey Report for Stone

### Chapter – XV      Quality /Grade of Mineral available in the District;

Table 14 Quality /Grade of Mineral available in the District

| Mineral | Quality / Grade     |
|---------|---------------------|
| Sand    | Medium Size Sand    |
| Stone   | Granite/Gneiss Rock |
| Soil    | Silty Clay          |



2

## Koderma District Survey Report for Stone

### **Chapter - XVI      Use of Mineral;**

Projected growth in infrastructure sector in the district will need essential inputs. One of such critical input is availability of stone chips of required size & quality.

For this, it is essential that stone bearing areas, complying to conditions for environmentally safe mining are identified and included in the DSR.



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## Koderma District Survey Report for Stone

### Chapter – XVII Demand and Supply of the Mineral in the last three years (cft);

**Table 14** Quantity of stone produced (in CFT) in the district during last three years

| Minor Mineral | 2023-2024 | 2024-25      | 2025-26  |
|---------------|-----------|--------------|----------|
| Stone         | 17068108  | 19184641.779 | 17420294 |

Source: District Mining Office, Koderma

Predicted growth in infrastructure sector is 8.2 % (source - Invest India) keeping this figure in view estimated demand for Building stone in next 03 years are given below: -

**2026-2027:** 152408.83 cum

**2027-2028:** 930219.68 cum

**2028-2029:** 39887.587 cum

**Source:** Road construction Department, Koderma

**BDO, Satgawan** informed that in Satgawan block **2000 cum** of stone chips will be required in next five years for different development projects.

**Executive Engineer, Jharkhand Rajya Bhawan Nirman Nigam Limited, Koderma** informed that **64900 Mt** of stone chips will be required for completion of two upcoming projects that were finalised till date namely – Medical college and B.Sc Nursing college.



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Chapter – XVIII Mining leases marked on the map of the district;

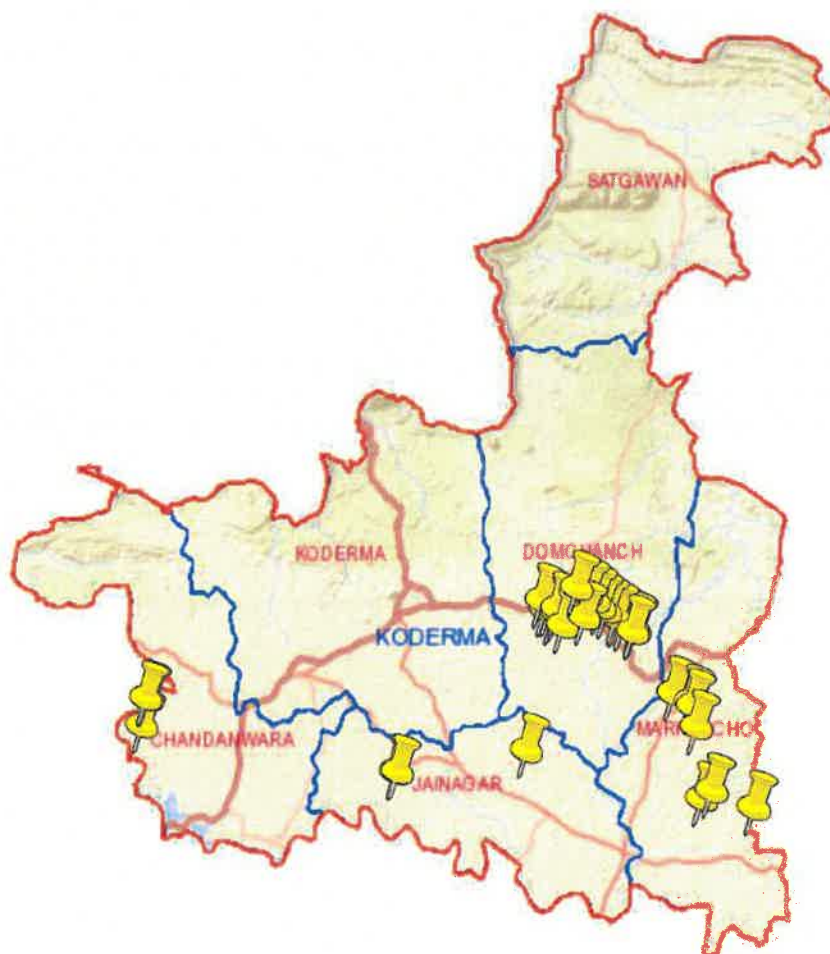


Figure 7 Showing locations of running leases in the District.



*[Handwritten signature]*

## Koderma District Survey Report for Stone

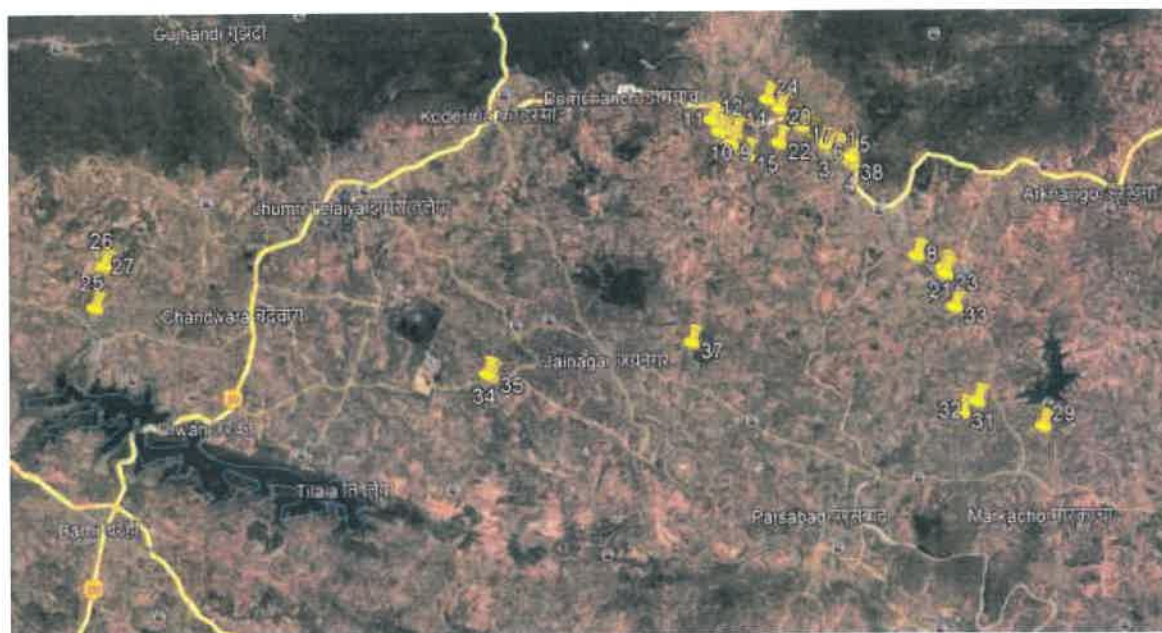


Figure 8 Satellite imagery of running leases in the district.



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Figure 9 Showing blocks proposed by District Geological Office, Koderma.



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## Koderma District Survey Report for Stone

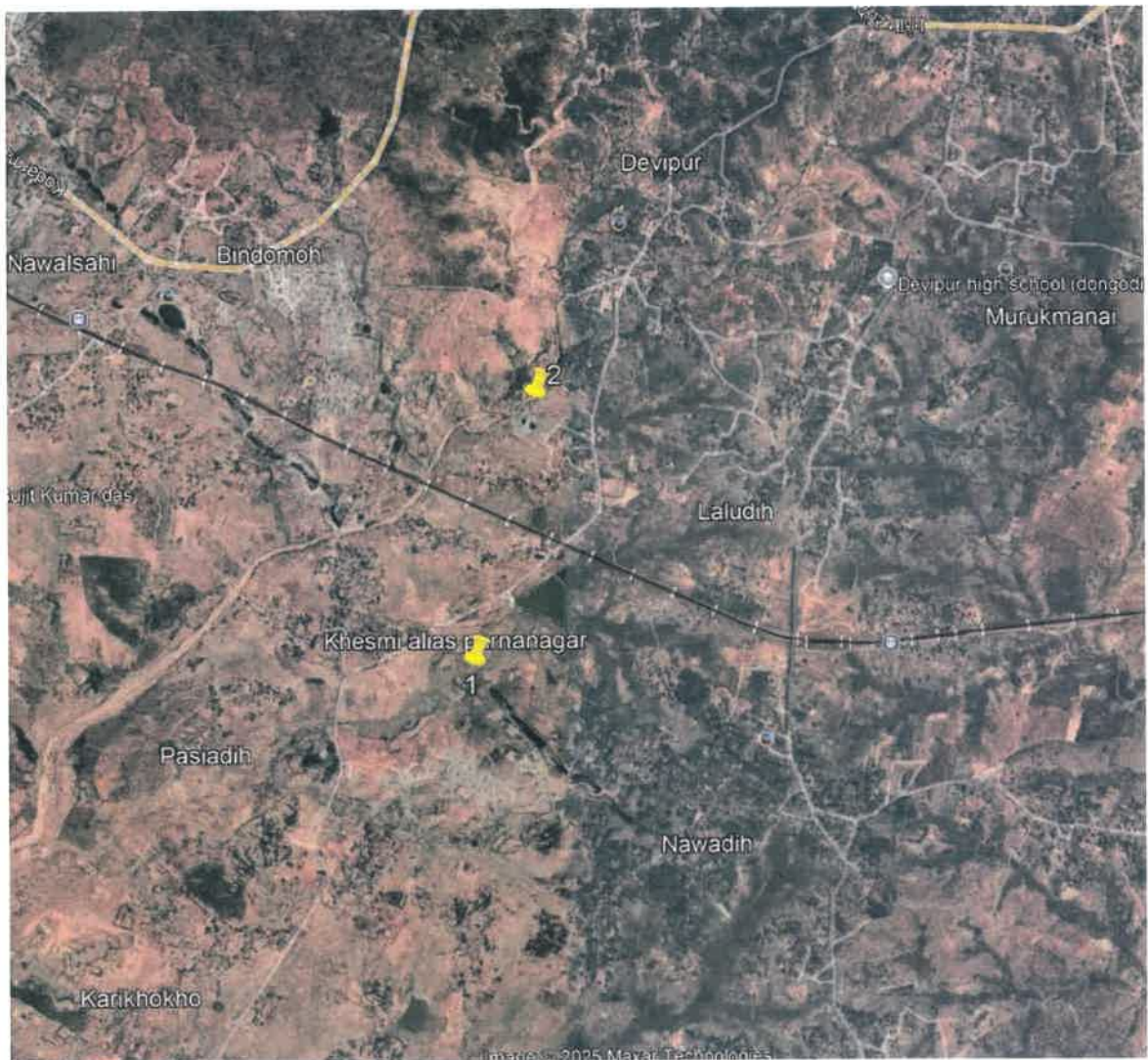


Figure 10 Satellite imagery of proposed area by District Geological Office

2



## Koderma District Survey Report for Stone

**Chapter – XIX          Details of the area of where there is a cluster of mining leases  
viz. number of mining leases, location (latitude and longitude);**

Cluster of mining lease will be declared by District Mining Officer before  
Environment Clearance.



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## Koderma District Survey Report for Stone

**Chapter – XX Details of Eco-Sensitive Area, if any, in the District;**  
Ministry of Environment, Forest & Climate Change notified the Eco Sensitive Zone of Koderma Wildlife Sanctuary vide notification number S.O. 2895(E) & dated 9th August, 2019.

As per the prescribed siting criteria for grant of Letter of Intent (LOI), the District Mining Officer (DMO) scrutinizes the wildlife status of the proposed area based on the recommendation of the Divisional Forest Officer (Wildlife) [DFO (WL)]. In case of an adverse recommendation from DFO (WL), the LOI is not granted.

The boundary of ESZ & Wildlife Sanctuary in Koderma District shown in figure below;

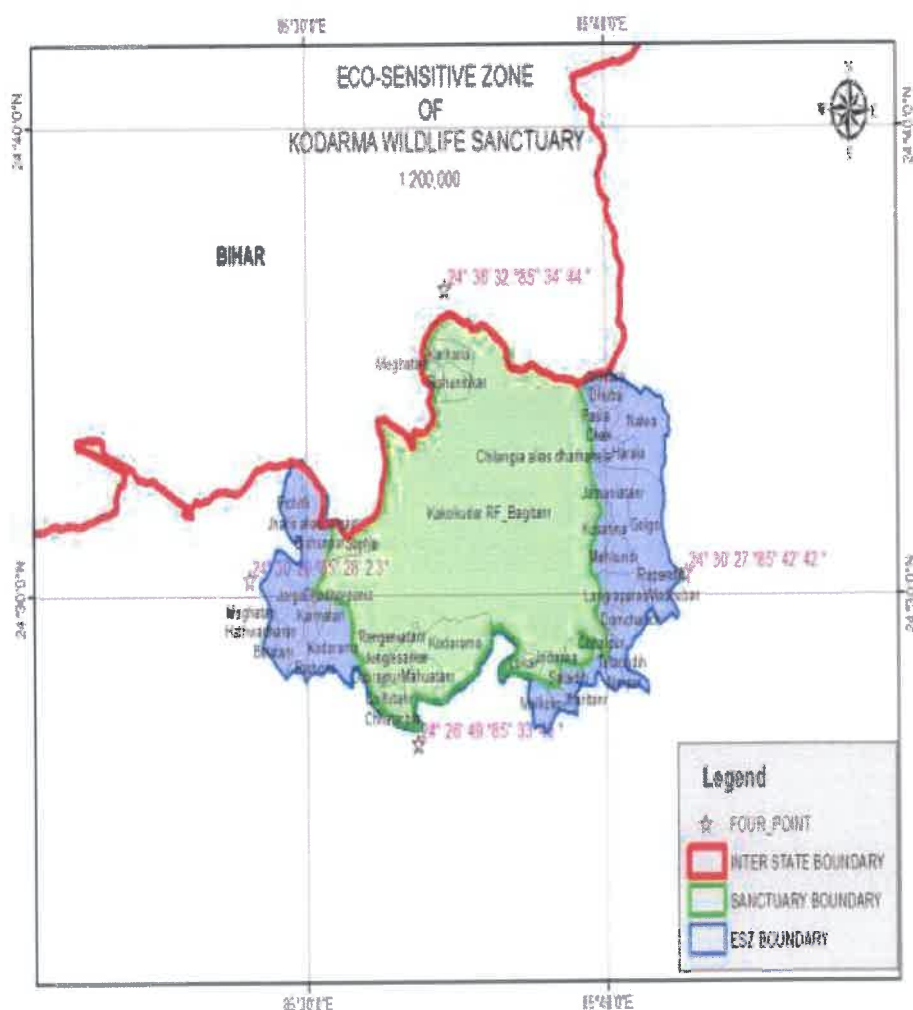


Figure 11 Eco-Sensitivite Zone of Koderma Wildlife Sanctuary

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## Koderma District Survey Report for Stone

**Chapter - XXI Impact on the Environment (Air, Water, Noise, Soil, Flora & Fauna, land use, agriculture, forest etc.) due to mining activity;**

**Chapter - XXII Remedial Measures to mitigate the impact of mining on the Environment;**

| AMBIENT AIR QUALITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMPACT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | MITIGATION MEASURES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>Typical impact on Air Quality due to mining activities are;</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Dust Generation due to                             <ul style="list-style-type: none"> <li>✓ Site Preparation</li> <li>✓ Drilling</li> <li>✓ Blasting</li> <li>✓ Crushing</li> <li>✓ Transportation on haul road or unpaved road</li> </ul> </li> <li><input type="checkbox"/> Emission of Noxious Gases                             <ul style="list-style-type: none"> <li>✓ Operation of mining equipment</li> <li>✓ Blasting</li> <li>✓ Transportation</li> </ul> </li> </ul> | <p>To mitigate the impact some suggestive measures are;</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Dust Generation                             <ul style="list-style-type: none"> <li>✓ Adopt a wet drilling system this will minimize dust generation during drilling process .</li> <li>✓ Practice controlled blasting to minimize generation of dust.</li> <li>✓ Regular water sprinkling on haul road.</li> <li>✓ Install wet dust suppression system in crushing and screening plant.</li> <li>✓ Regular water sprinkling on unpaved roads.</li> <li>✓ Dust generation from road also depends on speed of transport vehicles. There should be speed restriction of 20 KMPH on unpaved road</li> </ul> </li> <li><input type="checkbox"/> Emission of Noxious Gases                             <ul style="list-style-type: none"> <li>✓ Use of optimal quantity of explosive in blasting.</li> <li>✓ To ensure that transportation vehicles have "Pollution Under Control Certificate".</li> <li>✓ Regular repair and maintenance of mining equipment &amp; transportation</li> </ul> </li> </ul> |

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## Koderma District Survey Report for Stone

|  |                                                                                                                                                                                                                 |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>vehicle.</p> <ul style="list-style-type: none"><li>✓ Proper repair and maintenance of road.</li><li>❖ Raise Green Belt in safety zone.</li><li>❖ Avenue plantation along a both sides of Link Road</li></ul> |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



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| WATER QUALITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMPACT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | MITIGATION MEASURES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <p>Typical impact on Water Quality due to mining activities are;</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Run-off of sediments due to                             <ul style="list-style-type: none"> <li>✓ Site Preparation</li> <li>✓ Dumping of OB</li> <li>✓ Crushing</li> <li>✓ Drilling</li> </ul> </li> <li><input type="checkbox"/> Contamination of oil or chemical in water (surface &amp; ground water) due to                             <ul style="list-style-type: none"> <li>✓ Dumping of OB</li> <li>✓ Drilling</li> <li>✓ Blasting</li> <li>✓ Spills due to transportation</li> </ul> </li> </ul> | <p>To mitigate the impact some suggestive measures are;</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Run-off                             <ul style="list-style-type: none"> <li>✓ Provide garland drains around quarry to intercept surface run-off from high elevation to quarry and divert it to collection cum desilting pond.</li> <li>✓ Provide foot drain along toe of external dump. Foot drain will collect run-off from external dump and divert to storage cum desilting pond for proper treatment</li> </ul> </li> <li><input type="checkbox"/> Water Contamination                             <ul style="list-style-type: none"> <li>✓ Water pump out from quarry will need to be diverted to storage cum desilting pond for treatment.</li> <li>✓ Proposed effluent treatment plant (ETP).</li> <li>✓ Regular repair &amp; maintenance of equipment &amp; vehicles.</li> <li>✓ Movement of heavy vehicles may be restricted to lease area and road so that leaking oil &amp; grease may not contaminate water quality.</li> </ul> </li> </ul> <p>❖ <b>PROMOTE ZERO LIQUID DISCHARGE (ZLD).</b></p> |

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## Koderma District Survey Report for Stone

| NOISE LEVEL                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMPACT                                                                                                                                               | MITIGATION MEASURES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Increase in noise level due to various mining activities such as operation of mining equipment, movement of vehicles, drilling, blasting & crushing. | <p>To mitigate the impact some suggestive measures are;</p> <ul style="list-style-type: none"> <li>✓ Mining operation to be confined to day shift only</li> <li>✓ At machineries to be repaired and maintained regularly.</li> <li>✓ Raise Green Belt in safety zone.</li> <li>✓ Avenue plantation along a both sides of Link Road</li> <li>✓ Regular repair and maintenance of mining equipment &amp; transportation vehicle.</li> <li>✓ Proper repair and maintenance of road.</li> <li>✓ Speed restriction of 20 KMPH on unpaved road.</li> <li>✓ Acoustic Barrier along the periphery of mining lease at critical points.</li> </ul> |

| Material              | NRC (Noise Reduction Coefficient) | Transmission Loss (dB) | Other Properties                      |
|-----------------------|-----------------------------------|------------------------|---------------------------------------|
| Concrete              | 0.20 – 0.30                       | 30 – 40                | High density, durable, long lifespan  |
| Metal (Steel)         | 0.05 – 0.10                       | 25 – 35                | Lightweight, can be perforated        |
| Wood                  | 0.15 – 0.25                       | 20 – 30                | Natural, aesthetically pleasing       |
| Acrylic/Polycarbonate | 0.05 – 0.10                       | 20 – 30                | Transparent, UV resistant             |
| Green Walls           | 0.40 – 0.50                       | 15 – 25                | Environmentally friendly, absorbs CO2 |
| Earth Berms           | 0.30 – 0.40                       | 20 – 35                | Natural appearance, requires space    |

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## Koderma District Survey Report for Stone

| SOIL QUALITY                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMPACT                                                                                                                                                                                                                                                                                         | MITIGATION MEASURES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <p>Mining Activities are likely to impact on soil quality as;</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Loss of topsoil</li> <li><input type="checkbox"/> Productivity of Soil</li> <li><input type="checkbox"/> Contamination of oil or chemical in Soil</li> </ul> | <p>To mitigate the impact some suggestive measures are;</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Loss of topsoil <ul style="list-style-type: none"> <li>✓ Topsoil are to be removed &amp; stored in an identified area. In order to conserve the quality of topsoil, grass cover are to be developed on topsoil dumps, Such conserved topsoil may be used for land reclamation &amp; development of greenbelt.</li> </ul> </li> <li><input type="checkbox"/> Productivity of Soil <ul style="list-style-type: none"> <li>✓ Movement of heavy mining machineries on agriculture land and productive land should be restricted.</li> </ul> </li> <li><input type="checkbox"/> Contamination of oil or chemical in Soil <ul style="list-style-type: none"> <li>✓ Movement of heavy vehicles may be restricted to lease area and road so that leaking oil &amp; grease may not contaminate soil quality.</li> </ul> </li> </ul> |



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## Koderma District Survey Report for Stone

| BIO-DIVERSITY                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IMPACT                                                                                                                                                                                                                                                                            | MITIGATION MEASURES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <p>Mining Activities are likely to impact on Bio-Diversity of the region as;</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Habitat Destruction</li> <li><input type="checkbox"/> Ecosystem Disruption</li> <li><input type="checkbox"/> Damaging</li> </ul> | <p>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 &amp; its operation such mitigation measures are given below;</p> <ul style="list-style-type: none"> <li>✓ Mine site are selected considering siting criteria prescribed by Government (JSEIAA / JSPCB / MOEF &amp; CC).</li> <li>✓ Avoid site which have tree cover.</li> <li>✓ Avoid site through which drainage channels passes through.</li> <li>✓ <b>Ecological Assessment:</b> Conduct a thorough ecological survey to identify species and habitats present.</li> <li>✓ <b>Buffer Zones:</b> Establish buffer zones around sensitive habitats to minimize disturbance.</li> <li>✓ <b>Minimize Habitat Destruction:</b> Plan site layout to avoid key habitats and minimize vegetation clearing.</li> <li>✓ <b>Translocation:</b> Consider translocating significant flora and fauna to safe areas.</li> <li>✓ <b>Restoration Plans:</b> Develop a habitat restoration plan for post-mining activities.</li> <li>✓ <b>Wildlife Corridors:</b> 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.</li> </ul> |

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**Chapter – XXIII Reclamation of mined out area (best practice already implemented in the district, requirement as per rules and regulation, proposed reclamation plan);**

**23.1 General**

In most of cases stone is mined out by opencast method of mining which creates a quarry pit. It constitutes loss of value of a Land Resource. Also, a potential risk to human being & animal. with this consideration, mine pit must be Reclaimed after resource is exhausted & mining operations are closed.

Reclamation of mined-out areas is crucial for restoring ecological balance and ensuring sustainable land use post-mining. In Koderma district, one of the best practices already implemented for reclamation is the creation of water reservoirs in mined-out areas.

**23.2 Options for Remediation**

***Scenario A: Mining Area with Overburden***

In this scenario, the stone reserve is covered by a layer of overburden consisting of soil or weathered rock. Mining operations should proceed with the removal of this overburden, which should be stored in a non-mining area. Once mining operations are complete, the overburden can be used to backfill the pit, or it can be left as is and reclaimed biologically. After backfilling, the quarry will be reclaimed.

**Benefits:**

- **Environmental Restoration:** Backfilling the pit with overburden or biologically reclaiming it ensures that the landscape is restored, reducing visual impact and preventing soil erosion.
- **Land Reuse:** Reclaimed land can be used for various purposes, such as agriculture, recreation, or natural habitat, promoting sustainable land management.
- **Ecosystem Recovery:** Biological reclamation supports the restoration of local flora and fauna, enhancing biodiversity and ecological balance.

***Scenario B: Mining Area without Overburden***

In this scenario, there is no overburden. Therefore, the quarry will be reclaimed immediately after mining operations are completed. Rainwater will naturally fill the void, creating a water reservoir.

**Benefits:**

**Groundwater Recharge:** The water body facilitates groundwater recharge in the area, helping to restore and sustain local aquifers.

**Pisciculture:** The newly created water body can be utilized for pisciculture (fish farming), providing economic opportunities and supporting local fish populations.

**Irrigation:** The water stored in the reservoir can be used for irrigation in nearby agricultural areas, enhancing crop yields and supporting local agriculture.

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## Koderma District Survey Report for Stone

**In Koderma district, one of the best practices already implemented for reclamation is the creation of water reservoirs in mined-out areas.**

### **23.3 Safety measures**

Mine pit- filled with water after mining operation are over & mine is closed is a major Source for drowning of people & animals.

Measures must be taken to restrict free access to water body. One quarry must be fenced & wicket gate with locking arrangement must be provided.



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## Koderma District Survey Report for Stone

### Chapter - XXIV Risk Assessment & Disaster Management Plan

#### 24.1 General

Mining activities are associated with risk that can turn into hazard to life & health if not addressed in time & adequately. This need to be identified & mitigation measures are to be provided to prevent it on measures to be taken to minimise its effects.

#### 24.2 Categorisation of Risks

Risk associated with mining projects may be, broadly, categorised into two categories namely on site & off site Risk. They are described below.

#### 24.3 On Site Risks

On site risks that need to be addressed are desorbed.

**Offsite Risks:** Mining and allied activities may also cause offsite risk.



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## Koderma District Survey Report for Stone

### Risk Assessment & its Preventive Measures

| Particulars                                                                                                | Risk Assessment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Preventive Measures                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Natural</b><br><br> | <b>Flooding</b><br><p>The drainage plan (Dewatering scheme) of the mine has to be prepared considering the maximum rainfall in the area corresponding to maximum quantity of water accumulated in quarry, sufficient capacity of pump need to be provided for preventing flooding of quarry.</p>                                                                                                                                                                                               | <b>Flooding</b><br><p>The drainage plan (Dewatering scheme) of the mine has to be prepared considering the maximum rainfall in the area corresponding to maximum quantity of water accumulated in quarry, sufficient capacity of pump need to be provided for preventing flooding of quarry.</p>                                                                                                                                                                                               |
|                                                                                                            | <b>Earthquake</b><br><p>If the mine is in zone iii &amp; above of impact of earthquake must be integrated with planning &amp; design of the project.</p>                                                                                                                                                                                                                                                                                                                                       | <b>Earthquake</b><br><p>If the mine is in zone iii &amp; above of impact of earthquake must be integrated with planning &amp; design of the project.</p>                                                                                                                                                                                                                                                                                                                                       |
|                                                                                                            | <b>Land slide</b><br><p>To prevent land slide in the mine following measures need to be taken care nature of rock corresponding to</p>                                                                                                                                                                                                                                                                                                                                                         | <b>Land Slide</b><br><p>To prevent land slide in the mine following measures need to be taken care nature of rock corresponding to</p>                                                                                                                                                                                                                                                                                                                                                         |
|                                                                                                            | <p>✓ Proper slope to be provided to advancing bench of the mine</p> <p>✓ Proper slope (45° - 50°) to be provided for terminal slope to the quarry</p> <p>✓ External dump has to be properly planned with proper side slope to prevent slope failure.</p> <p>✓ External dump should be located on a stable ground with load bearing capacity to support load of external dump.</p> <p>✓ External dump should be proper drainage plan to prevent building up of internal hydraulic pressure.</p> | <p>✓ Proper slope to be provided to advancing bench of the mine</p> <p>✓ Proper slope (45° - 50°) to be provided for terminal slope to the quarry</p> <p>✓ External dump has to be properly planned with proper side slope to prevent slope failure.</p> <p>✓ External dump should be located on a stable ground with load bearing capacity to support load of external dump.</p> <p>✓ External dump should be proper drainage plan to prevent building up of internal hydraulic pressure.</p> |

## Koderma District Survey Report for Stone

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                       |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Mechanical</b> | <p>Operation of mine involves use of a number of Heavy earth moving Machines including Drills, Backhoe, Shovel, dumper etc. Operation of these equipment's may cause accident leading to loss of life or equipment's similarly material including row material, waste material &amp; product are to be transported by road using dumper, tipper.</p> <p>Unregulated transportation may lead to road accident</p> | <ul style="list-style-type: none"> <li>✓ Toe wall with foot drain.</li> <li>✓ Regular training to equipment operator</li> <li>✓ Regular repair &amp; maintenance of equipment</li> </ul>                                              |
| <b>Electrical</b> | <p>Project operation requires operation of electrical equipment. They are operated on high voltage &amp; use cables. Use of electrical equipment may cause fire or electrocution</p>                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>✓ Electrical system needs to be designed following relevant prevailing rules as per Act.</li> <li>✓ Regular maintenance and upkeep of cables, switches etc.</li> </ul>                         |
| <b>Fire</b>       | <p>Operation of mine requires use of electrical power &amp; diesel oil. Use of electrical power &amp; oil may cause Fire</p>                                                                                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>✓ Safe storage of diesel.</li> <li>✓ No Smoking Zone.</li> <li>✓ Maintenance of electrical wires</li> <li>✓ The electrical cables with PVC sheath to prevent over heating and fire.</li> </ul> |





## Koderma District Survey Report for Stone

|                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <ul style="list-style-type: none"> <li>✓ The cables should have wire with appropriate size of core to carry required current.</li> <li>✓ Provision for fire alarm and arrangement for firefighting appliances.</li> </ul>                                                                                                                                                                                     |
| <b>Blasting &amp; Vibration</b><br> | <p>Operation of mine needs blasting using explosives. Unattended &amp; unplanned blasting may cause accident.</p> <p>The planned blasting may cause ground vibration outside the lease area that may affect stability of structures located in close vicinity</p> <p><b>Ground Vibration</b></p> <p>The planned blasting may cause ground vibration outside the lease area that may affect stability of structures located in close vicinity</p> | <ul style="list-style-type: none"> <li>✓ Proper design of Blasting pattern to ensure ground vibration within limit</li> <li>✓ Use of optimal quantity of explosives</li> <li>✓ Hooter should be used to inform &amp; warn workman before blasting in done.</li> </ul>                                                                                                                                         |
| <b>Environmental Pollution</b>                                                                                          | <p>Mining activities may cause health risks for workmen they may be due to exposure to high level of dust or noise in work area.</p> <p>Project activities may generate environmental pollution that</p>                                                                                                                                                                                                                                         | <ul style="list-style-type: none"> <li>✓ All workmen to be provided with ear mutt &amp; mask</li> <li>✓ Pollution control measures to minimise environmental pollution such as raised plantation in Safety Zone, avenue plantation and dust suppression.</li> <li>✓ Regular health check-up of workman as per DGMS Rules.</li> <li>✓ Trucks with Pollution under control certificate to be allowed</li> </ul> |

## Koderma District Survey Report for Stone

|                                                                                                                                                                                             | may attest health of people living in vicinity of lease area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                   |                                                                          |                              |             |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------------|-------------|--|--|--------|-------------------------|--------------------------------|--------------------------------------------------------------------------|------------------------------|-------------|-----|-----|-----|-----|-----|-----|----|----------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|----|----|----|----------------------------------------------------------------------------------------------------------------------------------------------|-----|----|----|----|----|--------------------------------------------------------------------|----|----|----|----|----|--------------|-----|----|----|----|----|-------------|---|----|----|----|----|------------------------|---|----|----|----|
| <div><div>Road Accidents</div><div>Major Causes of road accidents are;<br/>Over Speed<br/>Non-Observance of traffic rules &amp; traffic signs<br/>Mechanical Failure of Vehicle</div></div> | <div><p>Follow provision in Motor Vehicles Act, 1988 &amp; its amendment</p><p>Ministry of Road Transport has published S.O. 1522 (E) prescribing speed limits on different types of roads for different category of vehicle State Govt. are empowered to fix speed limits within their state.</p><p>In addition, Section 112 of Motor Vehicles (Driving) Regulation, 2017 prohibits drivers to exceed prescribed speed limit on a road.</p><p>Table below gives speed limits prescribed by Central Govt. Speed limit sign board need to fixed on access road.</p><table><tr><th colspan="6">Maximum speed per hour in kilometres on roads in India<br/>April 2018</th></tr><tr><th>S. No.</th><th>Class of Motor Vehicles</th><th>Expressway with Access Control</th><th>4 lane and above divided carriageway (roads with Median stripe/Dividers)</th><th>Road within Municipal Limits</th><th>Other Roads</th></tr><tr><td>(1)</td><td>(2)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td></tr><tr><td>1.</td><td>Motor vehicles used for carriage of passengers comprising not more than eight seats in addition to the driver's seat ( M1 category vehicles)</td><td>120</td><td>100</td><td>70</td><td>70</td></tr><tr><td>2.</td><td>Motor vehicles used for carriage of passengers comprising nine or more seats in addition to the driver's seat ( M2 and M3 category Vehicles)</td><td>100</td><td>90</td><td>60</td><td>60</td></tr><tr><td>3.</td><td>More vehicles used for carriage of goods (All N category Vehicles)</td><td>80</td><td>80</td><td>60</td><td>60</td></tr><tr><td>4.</td><td>Motor Cycles</td><td>80*</td><td>80</td><td>60</td><td>60</td></tr><tr><td>5.</td><td>Quadricycle</td><td>-</td><td>60</td><td>50</td><td>50</td></tr><tr><td>6.</td><td>Three wheeled vehicles</td><td>-</td><td>50</td><td>50</td><td>50</td></tr></table><p>* If permitted to ply on Expressway.</p></div> | Maximum speed per hour in kilometres on roads in India<br>April 2018                                                                                                                                                              |                                                                          |                              |             |  |  | S. No. | Class of Motor Vehicles | Expressway with Access Control | 4 lane and above divided carriageway (roads with Median stripe/Dividers) | Road within Municipal Limits | Other Roads | (1) | (2) | (3) | (4) | (5) | (6) | 1. | Motor vehicles used for carriage of passengers comprising not more than eight seats in addition to the driver's seat ( M1 category vehicles) | 120 | 100 | 70 | 70 | 2. | Motor vehicles used for carriage of passengers comprising nine or more seats in addition to the driver's seat ( M2 and M3 category Vehicles) | 100 | 90 | 60 | 60 | 3. | More vehicles used for carriage of goods (All N category Vehicles) | 80 | 80 | 60 | 60 | 4. | Motor Cycles | 80* | 80 | 60 | 60 | 5. | Quadricycle | - | 60 | 50 | 50 | 6. | Three wheeled vehicles | - | 50 | 50 | 50 |
| Maximum speed per hour in kilometres on roads in India<br>April 2018                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                   |                                                                          |                              |             |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |
| S. No.                                                                                                                                                                                      | Class of Motor Vehicles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Expressway with Access Control                                                                                                                                                                                                    | 4 lane and above divided carriageway (roads with Median stripe/Dividers) | Road within Municipal Limits | Other Roads |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |
| (1)                                                                                                                                                                                         | (2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | (3)                                                                                                                                                                                                                               | (4)                                                                      | (5)                          | (6)         |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |
| 1.                                                                                                                                                                                          | Motor vehicles used for carriage of passengers comprising not more than eight seats in addition to the driver's seat ( M1 category vehicles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 120                                                                                                                                                                                                                               | 100                                                                      | 70                           | 70          |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |
| 2.                                                                                                                                                                                          | Motor vehicles used for carriage of passengers comprising nine or more seats in addition to the driver's seat ( M2 and M3 category Vehicles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 100                                                                                                                                                                                                                               | 90                                                                       | 60                           | 60          |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |
| 3.                                                                                                                                                                                          | More vehicles used for carriage of goods (All N category Vehicles)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 80                                                                                                                                                                                                                                | 80                                                                       | 60                           | 60          |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |
| 4.                                                                                                                                                                                          | Motor Cycles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 80*                                                                                                                                                                                                                               | 80                                                                       | 60                           | 60          |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |
| 5.                                                                                                                                                                                          | Quadricycle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | -                                                                                                                                                                                                                                 | 60                                                                       | 50                           | 50          |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |
| 6.                                                                                                                                                                                          | Three wheeled vehicles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -                                                                                                                                                                                                                                 | 50                                                                       | 50                           | 50          |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |
|                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <div><div><div><div><div></div><div>State Level Environmental Impact Assessment Authority</div></div><div>Approved</div></div></div></div> <div>In addition, proper sign boards to be provided near densely populated area,</div> |                                                                          |                              |             |  |  |        |                         |                                |                                                                          |                              |             |     |     |     |     |     |     |    |                                                                                                                                              |     |     |    |    |    |                                                                                                                                              |     |    |    |    |    |                                                                    |    |    |    |    |    |              |     |    |    |    |    |             |   |    |    |    |    |                        |   |    |    |    |

In addition, proper sign boards to be provided near densely populated area,

# Koderma District Survey Report for Stone

|  |  |                                                                                                                                                   |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | school, hospital, etc. & road intersections.<br>Road ramblers to be provided near school, hospital, densely populated area and road intersection. |
|--|--|---------------------------------------------------------------------------------------------------------------------------------------------------|



*[Handwritten signature]*

## Koderma District Survey Report for Stone

### 24.4 Disaster Management Plan

#### Provision of Siren

Arrangement to be made to provide siren to inform workman about occurrence of accident and instruction that on hearing siren mining activities to be stopped & assemble at pre – determined area

#### First Aid centre

A first aid centre to be provided next to mine office.

#### Arrangement for Medical Aid

Arrangement shown be in place so that services ambulance can be available for rescue of injured workmen Provided medical attendance to them. For this purpose, Hospital/Nursing homes with ambulance facility need to be identified.

Arrangement to be made for information to police and local administration

An executive to be nominated who is responsible for handling disaster situation.

Mine office should serve as control room with telephone facility phone number of hospitals, police station, local administration should be readily available.

### 24.5 Conclusion

Keeping above in consideration, proper risk and disaster management plan need to be developed along with mining plan for all mining project. Operated strictly following DGMS rules. D.M.P. Will have following components. All mines should be planned.



*[Handwritten signature]*

## Koderma District Survey Report for Stone

### 24.5 Risk & their Probability

| RISK IDENTIFIED                                                                                                                                                                                                                                                                          | PROBABILITY                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire</b> in diesel stored for operation of equipments.<br>In most of places electrical power is not available.                                                                                                                                                                        | <b>LOW</b><br>As proponents procure diesel on daily basis in absence of proper storage.                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Blasting</b> for mining of stone. On an average a stone mine would produce 250 T / Day in small stone mines. This will use approx. 35 Kg of explosives.<br><br>This produces ground vibration and fly rock. Vibration may affect stability of structure & fly rock may injure people. | <b>LOW</b><br>Since mines are located 500m away from habitated area problem of ground vibration & fly rock are of low risk.                                                                                                                                                                                                                                                                                                                                   |
| <b>Road Accident</b><br><br>This may be due to movement of vehicles on road carrying minerals.                                                                                                                                                                                           | <b>LOW</b><br>As number of vehicles per day in small mine may be 25-30 trips per day.<br><br>Advice vehicles operator to control speed near habitation area.                                                                                                                                                                                                                                                                                                  |
| <b>Electrocution</b><br><br>In case of mines which operated on electrical power. Power cables are used. There is risk of electrocution.                                                                                                                                                  | <b>LOW</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Environmental Pollution</b><br><br>Due to;<br><ul style="list-style-type: none"> <li>✓ Blasting</li> <li>✓ Drilling</li> <li>✓ Handling</li> <li>✓ Transporting</li> </ul>                                                                                                            | <b>MEDIUM</b><br>Environmental Pollution can be controlled by suitable mitigative measures including;<br><ul style="list-style-type: none"> <li>✓ Using optimal quantity of explosive.</li> <li>✓ Water Sprinkling on drilling site.</li> <li>✓ Trucks carrying product stone to be covered.</li> <li>✓ Regular water sprinkling on haul road.</li> <li>✓ Vehicles with pollution under control certificate.</li> <li>✓ Plantation in safety zone.</li> </ul> |



## Koderma District Survey Report for Stone

|               |                                                                                                                                                                                           |                                      |             |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------|
|               |                                                                                                                                                                                           | ✓ Avenue plantation along link road. |             |
| Natural Risk  |                                                                                                                                                                                           |                                      |             |
| Earthquake    | <b>LOW</b><br>As district fall in Zone II which is low risk zone.                                                                                                                         |                                      |             |
| Flood         | <b>LOW</b><br>✓ All identified potential areas are away from river.<br>✓ Proper arrangement for dewatering of quarry during the monsoon period.                                           |                                      |             |
| Slope Failure | <b>LOW</b><br>Mineral resource is massive deposit having no shear planes.<br>Hence land slide risk is low.<br><br>Moreover, running slope will be maintain at 75° to avoid slope failure. |                                      |             |
| LOW           |                                                                                                                                                                                           | MEDIUM                               | HIGH        |
| 0% to 30%     |                                                                                                                                                                                           | 30% to 60%                           | 60% to 100% |



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1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 2680, 26

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## Koderma District Survey Report for Stone

### Chapter - XXVI Plantation and Green Belt development in respect of leases already granted in the District;

#### 26.1 Status of Plantation & Greenbelt Development in respect of lease already granted in the District

Plantation were raised in safety zone as prescribed in Environment Clearance (EC) & Consent to Operate (CTO) conditions. Average survival rate was 40% - 50%. However, on closure of mine the project site was abandoned. In such circumstances, the tree covers were decreases due to lack of maintenance and absence of security. Only in a few cases some of trees planted in safety zone are available.

#### Status of Plantation in Running Mining Lease of the District

| Si. No. | Name of the Lessee                                    | Safety zone area (Ha) | No. of plants purpose @ 1600 plants per Ha | Actual existing trees on site | Difference |
|---------|-------------------------------------------------------|-----------------------|--------------------------------------------|-------------------------------|------------|
| 1       | मेसर्स मारुती स्टोन वक्स                              | 0.168                 | 268                                        |                               | 268        |
| 2       | 1. श्री महावीर यादव, 2. श्री सुरेन्द्र प्रसाद गुप्ता, |                       | 0                                          | 90                            | 90         |
| 3       | श्री लखन लाल मेहता,                                   | 0.15                  | 240                                        |                               | 240        |
| 4       | मेसर्स महादवे स्टोन वक्स                              | 0.283                 | 452                                        | 150                           | 302        |
| 5       | रामजानकी स्टोन माईन्स,                                | 0.39                  | 624                                        | 50                            | 574        |
| 6       | पुरनानगर स्टोन माईन्स                                 |                       | 0                                          | 30                            | 0          |
| 7       | Vinayak Stone Quarry                                  |                       | 0                                          | 40                            | 0          |
| 8       | श्री अमिताभ कुमार,                                    |                       | 0                                          | 60                            | 0          |
| 9       | 1. श्री निलेश रंजन एवं 2. श्री राजेश रौषन,            | 0.191                 | 305.6                                      | 40                            | 265.6      |
| 10      | मेसर्स मों जगदम्बा स्टोन वक्स                         | 0.314                 | 502                                        | 70                            | 432        |
| 11      | मेसर्स जय भीम स्टोन वक्स                              | 0.415                 | 664                                        | 50                            | 614        |
| 12      | मेसर्स जय मों चंचालनी स्टोन वक्स                      | 0.21                  | 336                                        | 30                            | 306        |
| 13      | श्री मनोज कुमार मेहत                                  | 0.571                 | 913                                        | 60                            | 853        |
| 14      | झारखण्ड स्टोन माईन्स,                                 | 0.364                 | 582                                        | 100                           | 482        |
| 15      | झारखण्ड स्टोन वक्स                                    | 0.31                  | 496                                        | 120                           | 376        |
| 16      | मेसर्स न्यू झारखण्ड स्टोन माईन्स                      | 0.22                  | 352                                        | 20                            | 332        |
| 17      | पवित्र ट्रेडिंग कम्पनी                                | 0.277                 | 443                                        | 20                            | 423        |
| 18      | गौरा पत्थर माईन्स,                                    | 0.165                 | 264                                        | 80                            | 184        |
| 19      | मेसर्स मों चंचालनी स्टोन वक्स,                        | 0.375                 | 600                                        |                               | 600        |
| 20      | मेसर्स न्यू झारखण्ड स्टोन माईन्स                      | 0.27                  | 432                                        | 80                            | 352        |
| 21      | अंजनी सुत माईनिंग एवं मिनरल वक्स एलएलपी               | 0.435                 | 696                                        |                               | 696        |
| 22      | श्रीमती विमली देवी,                                   | 0.37                  | 592                                        | 60                            | 532        |
| 23      | मेसर्स पंचसूल मिनरल्स                                 | 0.32                  | 512                                        | 50                            | 462        |
| 24      | मेसर्स गणपति मिनरल्स,                                 |                       | 0                                          | 20                            | 0          |
| 25      | मेसर्स आनन्द माईन्स एण्ड मिनरल्स,                     | 0.278                 | 444                                        | 15                            | 429        |
| 26      | षिव स्टोन माईनिंग                                     | 0.567                 | 907                                        | 40                            | 867        |



## Koderma District Survey Report for Stone

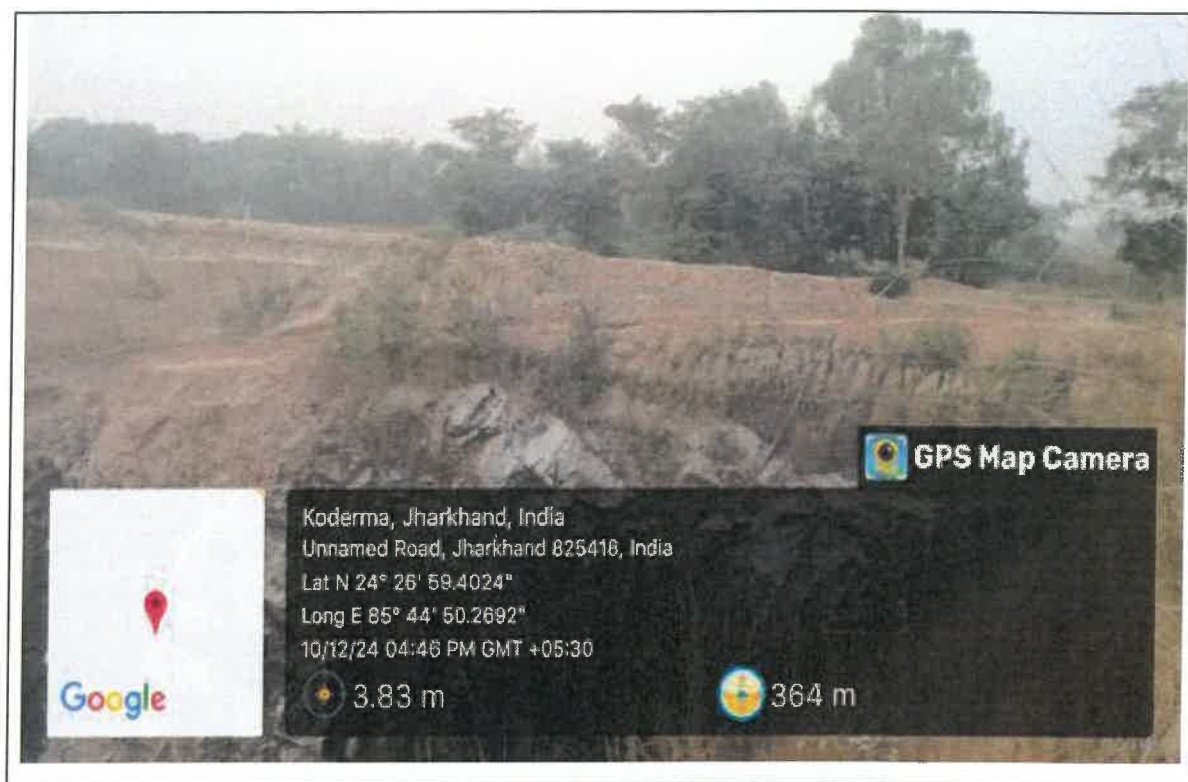
|    |                                                               |       |      |     |      |
|----|---------------------------------------------------------------|-------|------|-----|------|
| 27 | मेसर्स मॉ दुर्गा स्टोन चिप्स                                  | 0.859 | 1374 | 60  | 1314 |
| 28 | मेसर्स शिव पार्वती स्टोन क्वारी,                              | 0.398 | 636  | 15  | 621  |
| 29 | मेसर्स मारुती मिनरल्स,                                        | 1.03  | 1648 |     | 1648 |
| 30 | मेसर्स जय माता रानी मिनरल्स                                   | 0.3   | 480  | 80  | 400  |
| 31 | 1. श्री रवि कुमार निराला 2. श्री अशोक यादव 3. श्री गौतम कुमार | 0.245 | 392  | 70  | 322  |
| 32 | मेसर्स ओम साई स्टोन,                                          | 0.44  | 704  | 60  | 644  |
| 33 | पवित्र क्वायरी एक्सप्लोसिव प.10 लि0                           | 0.75  | 1200 | 150 | 1050 |
| 34 | झारखण्ड स्टोन माईन्स                                          | 0.8   | 1280 |     | 1280 |
| 35 | M/s Hill View Mining,                                         | 0.219 | 350  | 20  | 330  |
| 36 | जय माँ भद्रकाली स्टोन वक्स                                    | 0.24  | 384  | 30  | 354  |

***The Deputy Commissioner thorough 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.***



9

## Koderma District Survey Report for Stone



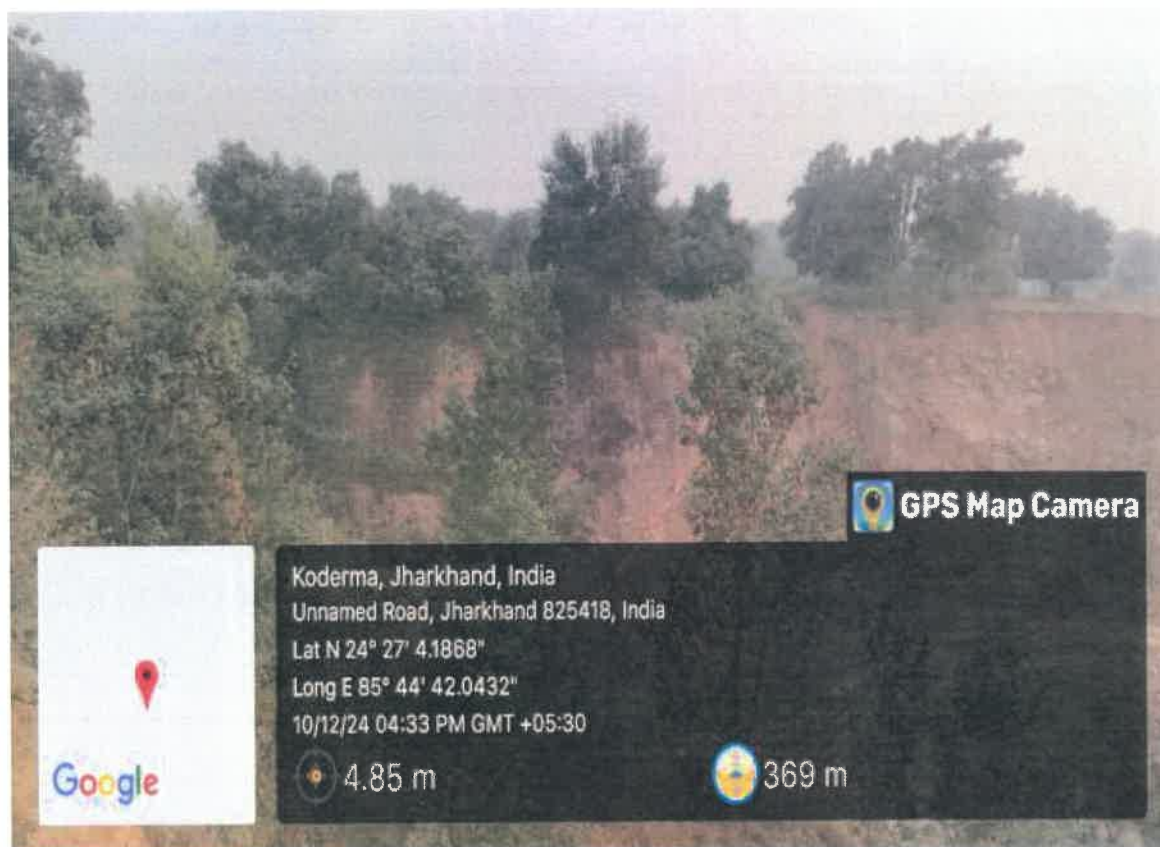
|                                        |                                     |
|----------------------------------------|-------------------------------------|
| Number of tree on site                 | 90                                  |
| Name of Mining Lease Holder            | Sri Mahabir Yadav                   |
| Location                               | Mauza - Nawalsahi, Area - 1.08 Acre |
| Area for plantation as per plan        |                                     |
| Number of tree proposed in Mining Plan |                                     |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



✍

## Koderma District Survey Report for Stone



|                                        |                                     |
|----------------------------------------|-------------------------------------|
| Number of tree on site                 | 150                                 |
| Name of Mining Lease Holder            | M/s Mahadev Stone Works             |
| Location                               | Mauza - Nawalsahi, Area - 1.89 Acre |
| Area for plantation as per plan        | 0.283 Ha                            |
| Number of tree proposed in Mining Plan | 452                                 |

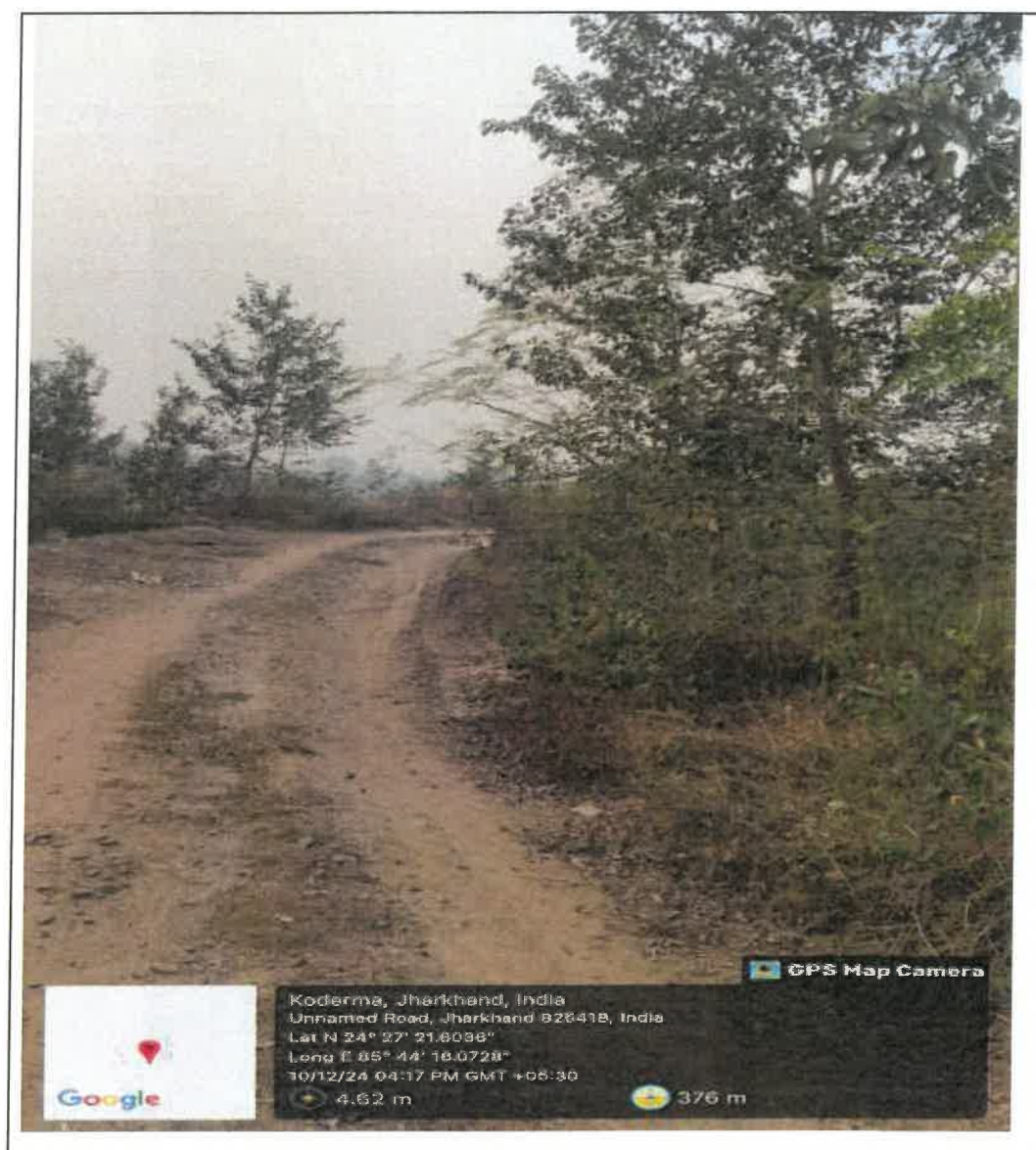
***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

OK





## Koderma District Survey Report for Stone



|                                        |                                                  |
|----------------------------------------|--------------------------------------------------|
| Number of tree on site                 | 50                                               |
| Name of Mining Lease Holder            | Ramjanki Stone Mines Proprietor - Sri Nirpat Saw |
| Location                               | Mauza - Nawada and Purnadih                      |
| Area for plantation as per plan        | 0.39 Ha                                          |
| Number of tree proposed in Mining Plan | 624                                              |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

✍





## Koderma District Survey Report for Stone



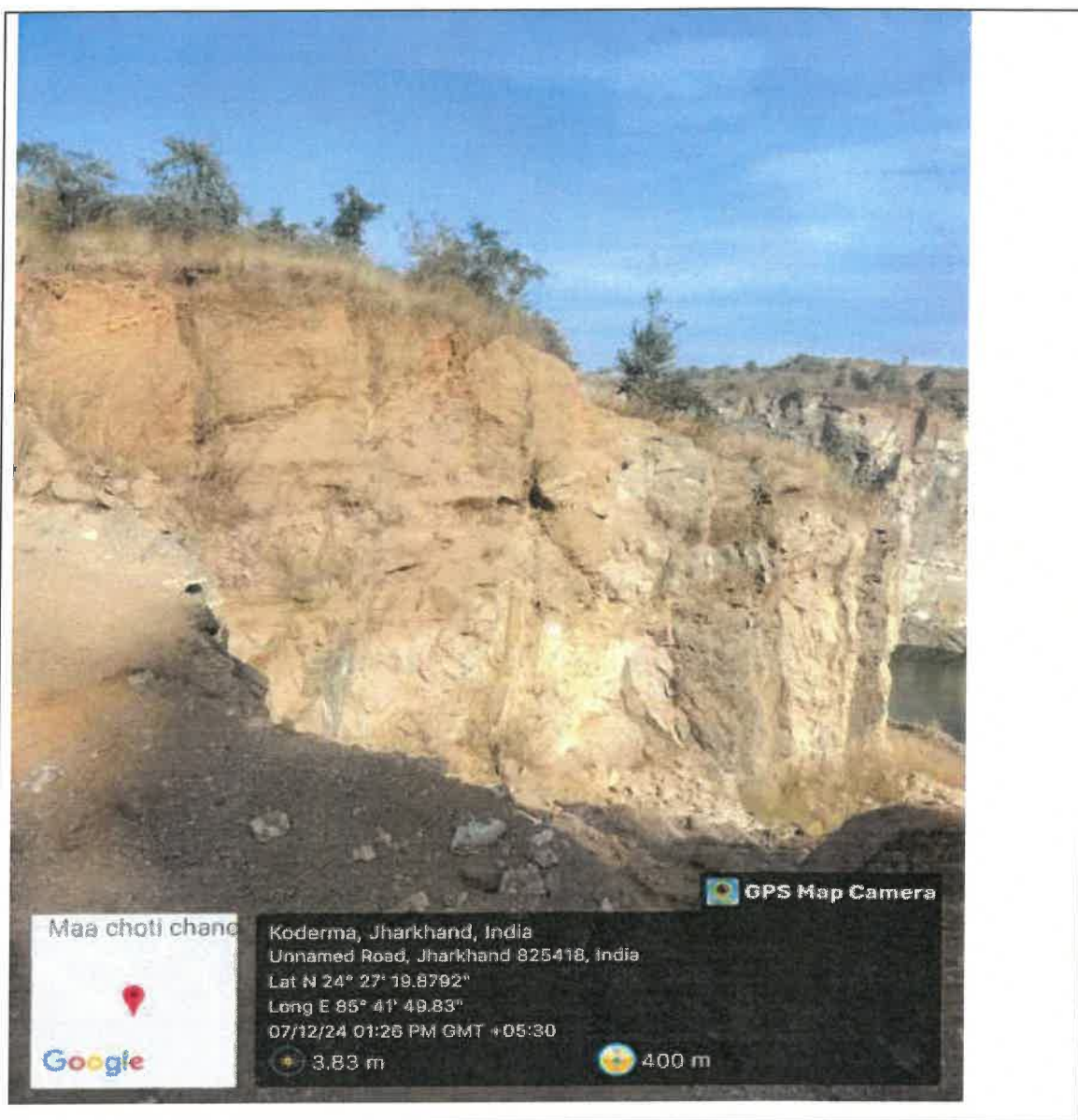
|                                        |                                              |
|----------------------------------------|----------------------------------------------|
| Number of tree on site                 |                                              |
| Name of Mining Lease Holder            | Purnanagar Stone Mines                       |
| Location                               | Mauza - Khesmi/ Purnanagar, Area - 1.41 Acre |
| Area for plantation as per plan        |                                              |
| Number of tree proposed in Mining Plan |                                              |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months***

OK



## Koderma District Survey Report for Stone



|                                        |                                     |
|----------------------------------------|-------------------------------------|
| Number of tree on site                 | 40                                  |
| Name of Mining Lease Holder            | Sri Nilesh Ranjan                   |
| Location                               | Mauza - Domchanch, Area - 2.25 Acre |
| Area for plantation as per plan        | 0.191 Ha                            |
| Number of tree proposed in Mining Plan | 306                                 |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

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## Koderma District Survey Report for Stone



|                                        |                                                         |
|----------------------------------------|---------------------------------------------------------|
| Number of tree on site                 | 50                                                      |
| Name of Mining Lease Holder            | M/s Jai Bhim Stone Works,<br>Proprietor - Ashish Joshi, |
| Location                               | Mauza - Domchanch,<br>Area - 3.70 Acre                  |
| Area for plantation as per plan        | 0.415 Ha                                                |
| Number of tree proposed in Mining Plan | 664                                                     |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

9x



## Koderma District Survey Report for Stone



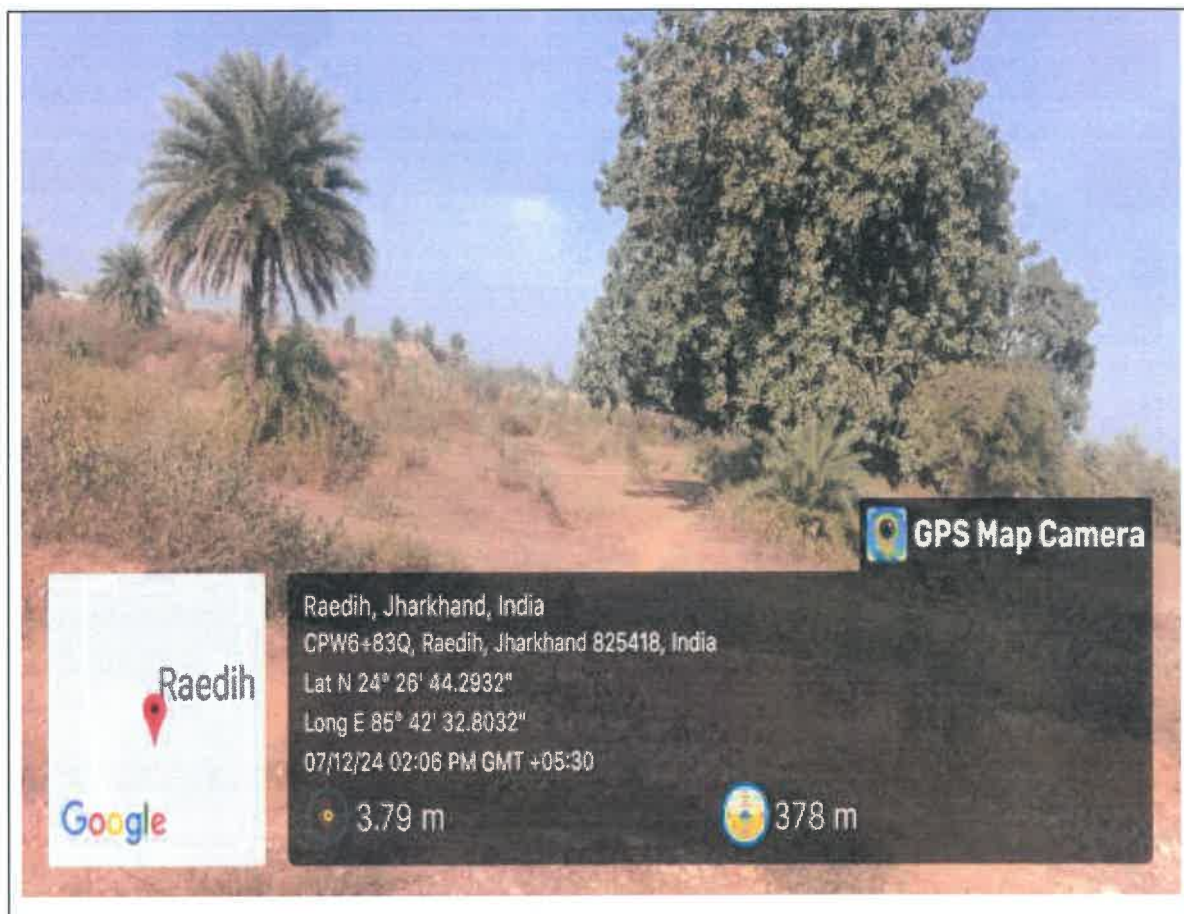
|                                        |                                        |
|----------------------------------------|----------------------------------------|
| Number of tree on site                 | 30                                     |
| Name of Mining Lease Holder            | Jai Maa Chanchalni Stone Works         |
| Location                               | Mauza - Domchanch,<br>Area - 2.38 Acre |
| Area for plantation as per plan        | 0.21 Ha                                |
| Number of tree proposed in Mining Plan | 336                                    |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



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## Koderma District Survey Report for Stone



|                                        |                                  |
|----------------------------------------|----------------------------------|
| Number of tree on site                 | 60                               |
| Name of Mining Lease Holder            | Sri Manoj Kumar Mehta            |
| Location                               | Mauza - Raidih, Area - 3.88 Acre |
| Area for plantation as per plan        | 0.571 Ha                         |
| Number of tree proposed in Mining Plan | 913                              |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



9x



## Koderma District Survey Report for Stone



|                                        |                                                     |
|----------------------------------------|-----------------------------------------------------|
| Number of tree on site                 | 100                                                 |
| Name of Mining Lease Holder            | Jharkhand Stone Mines,<br>Proprietor - Sanjay Kumar |
| Location                               | Mauza - Purnadih, Area - 3.40 Acre                  |
| Area for plantation as per plan        | 0.364 Ha                                            |
| Number of tree proposed in Mining Plan | 582                                                 |

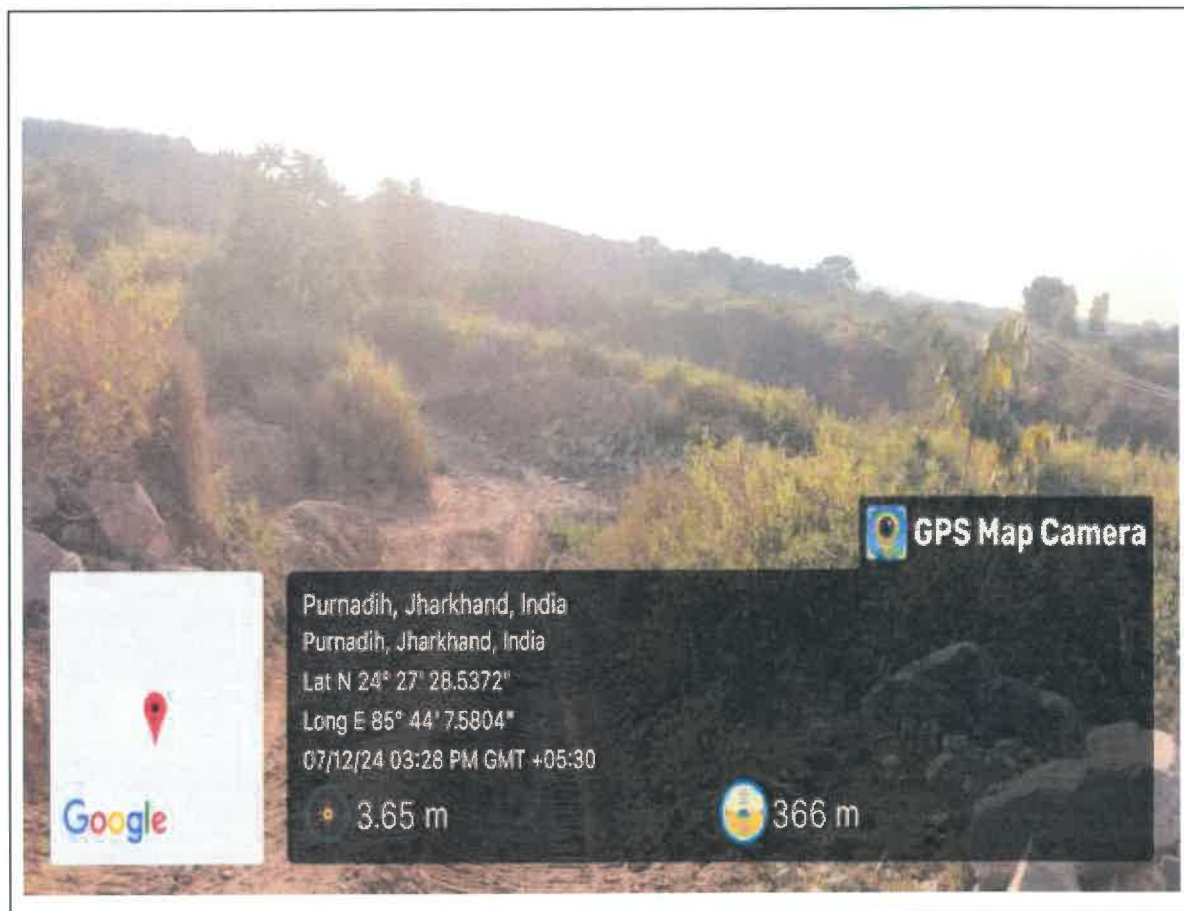
***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



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## Koderma District Survey Report for Stone



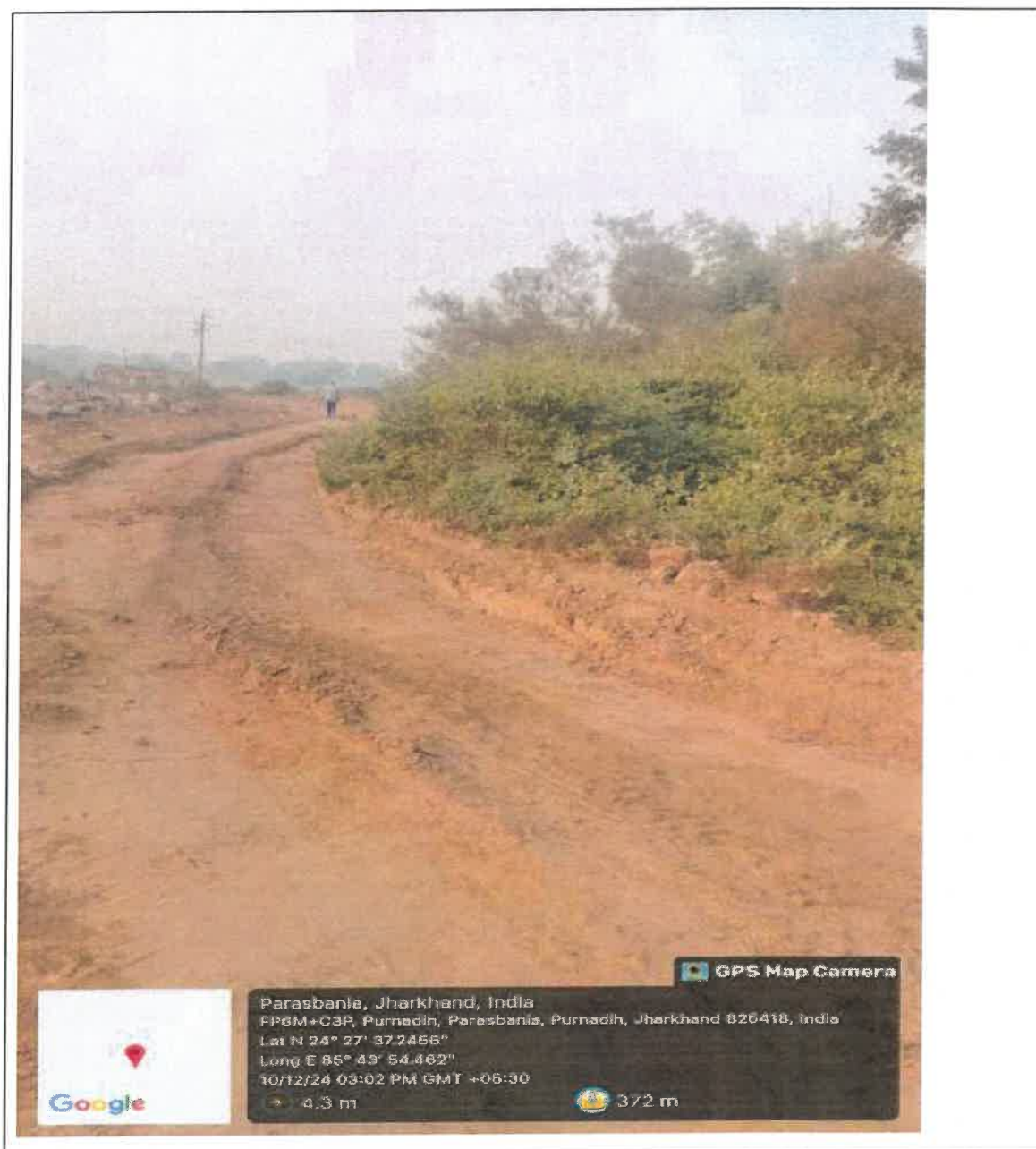
|                                        |                                                         |
|----------------------------------------|---------------------------------------------------------|
| Number of tree on site                 | 120                                                     |
| Name of Mining Lease Holder            | Jharkhand Stone Works, Proprietor - Sri Arunodaya Kumar |
| Location                               | Mauza - Purnadih, Area - 3.00 Acre                      |
| Area for plantation as per plan        | 0.31 Ha                                                 |
| Number of tree proposed in Mining Plan | 496                                                     |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



OK

## Koderma District Survey Report for Stone



|                                        |                                                              |
|----------------------------------------|--------------------------------------------------------------|
| Number of tree on site                 | 20                                                           |
| Name of Mining Lease Holder            | M/s New Jharkhand Stone Mines,<br>Partner - Sanjay Kumar Ray |
| Location                               | Mauza - Purnadih, Area - 1.00 Acre                           |
| Area for plantation as per plan        | 0.22 Ha                                                      |
| Number of tree proposed in Mining Plan | 352                                                          |



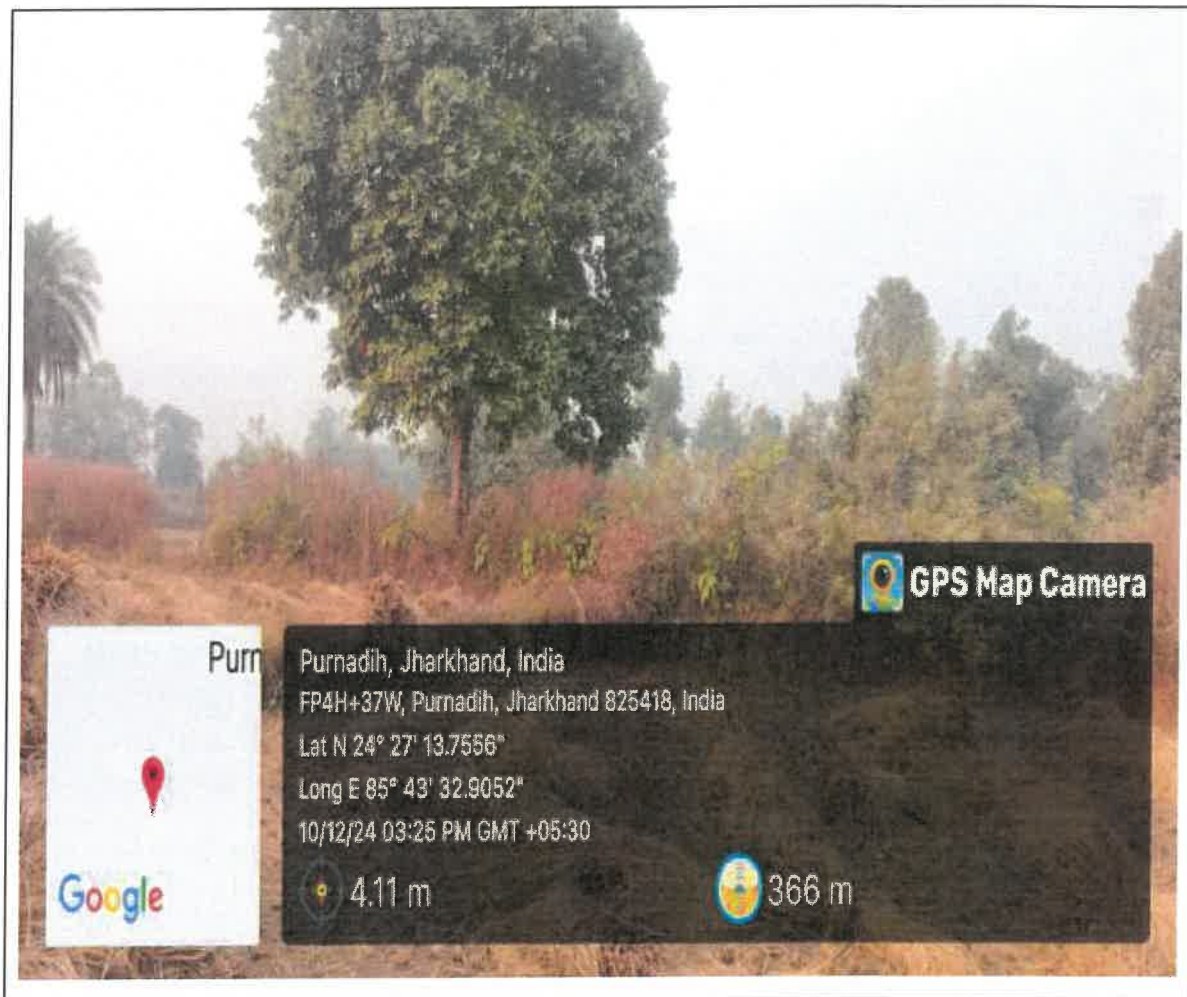
## Koderma District Survey Report for Stone

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



2

## Koderma District Survey Report for Stone



|                                        |                                                      |
|----------------------------------------|------------------------------------------------------|
| Number of tree on site                 | 20                                                   |
| Name of Mining Lease Holder            | Pavitra Trading Company<br>Proprietor - Rajkumar Das |
| Location                               | Mauza - Purnadih, Area - 1.90 Acre                   |
| Area for plantation as per plan        | 0.277 Ha                                             |
| Number of tree proposed in Mining Plan | 443                                                  |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***





## Koderma District Survey Report for Stone



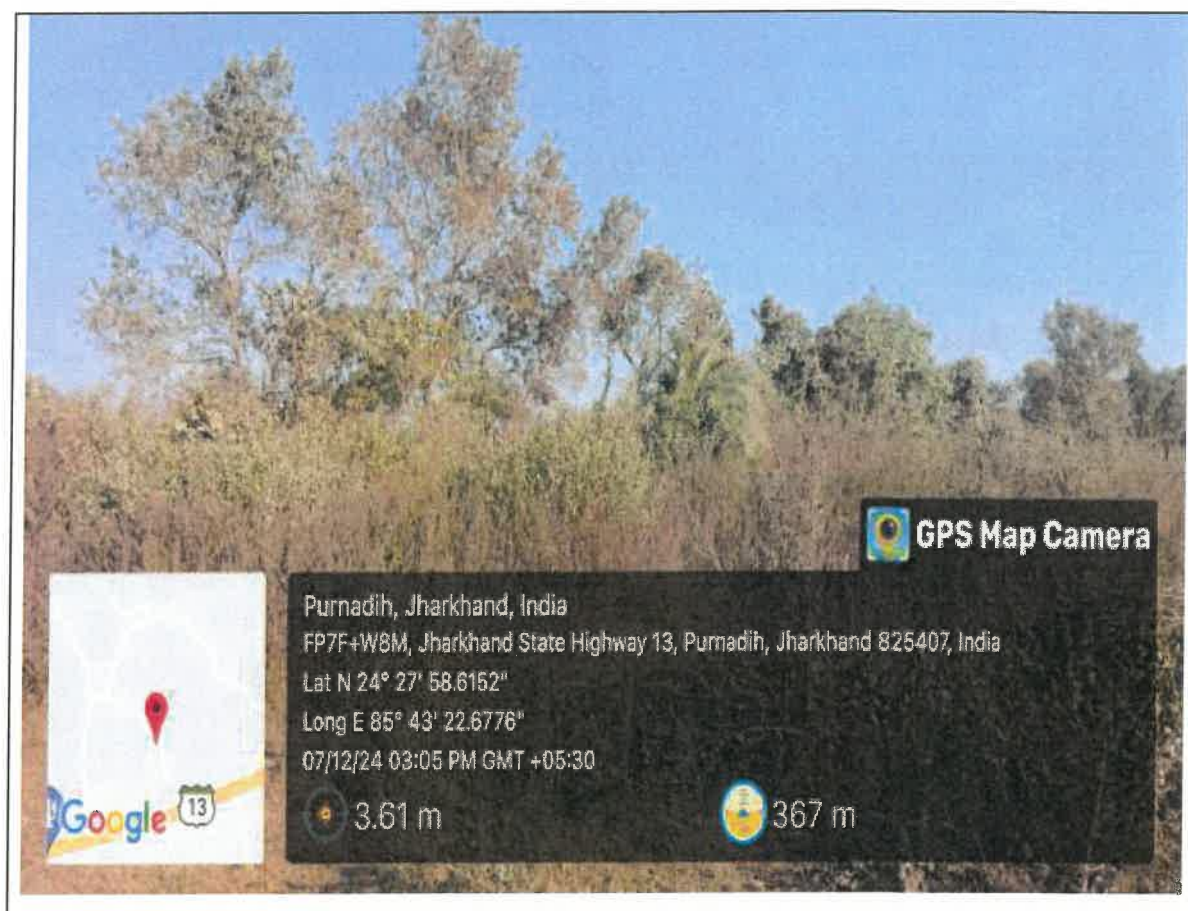
|                                        |                                                             |
|----------------------------------------|-------------------------------------------------------------|
| Number of tree on site                 | 30                                                          |
| Name of Mining Lease Holder            | Jai Maa Bhadrakali Stone Works,<br>Partner - Sri Ishwar Saw |
| Location                               | Mauza - Purnadih, Area - 1.08 Acre                          |
| Area for plantation as per plan        | 0.24 Ha                                                     |
| Number of tree proposed in Mining Plan | 384                                                         |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



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## Koderma District Survey Report for Stone



|                                        |                                                 |
|----------------------------------------|-------------------------------------------------|
| Number of tree on site                 | 20                                              |
| Name of Mining Lease Holder            | M/s Hill View Mining Proprietor - Nilesh Ranjan |
| Location                               | Mauza - Purnadih, Area - 1.45 Acre              |
| Area for plantation as per plan        | 0.219 Ha                                        |
| Number of tree proposed in Mining Plan | 350                                             |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***





## Koderma District Survey Report for Stone

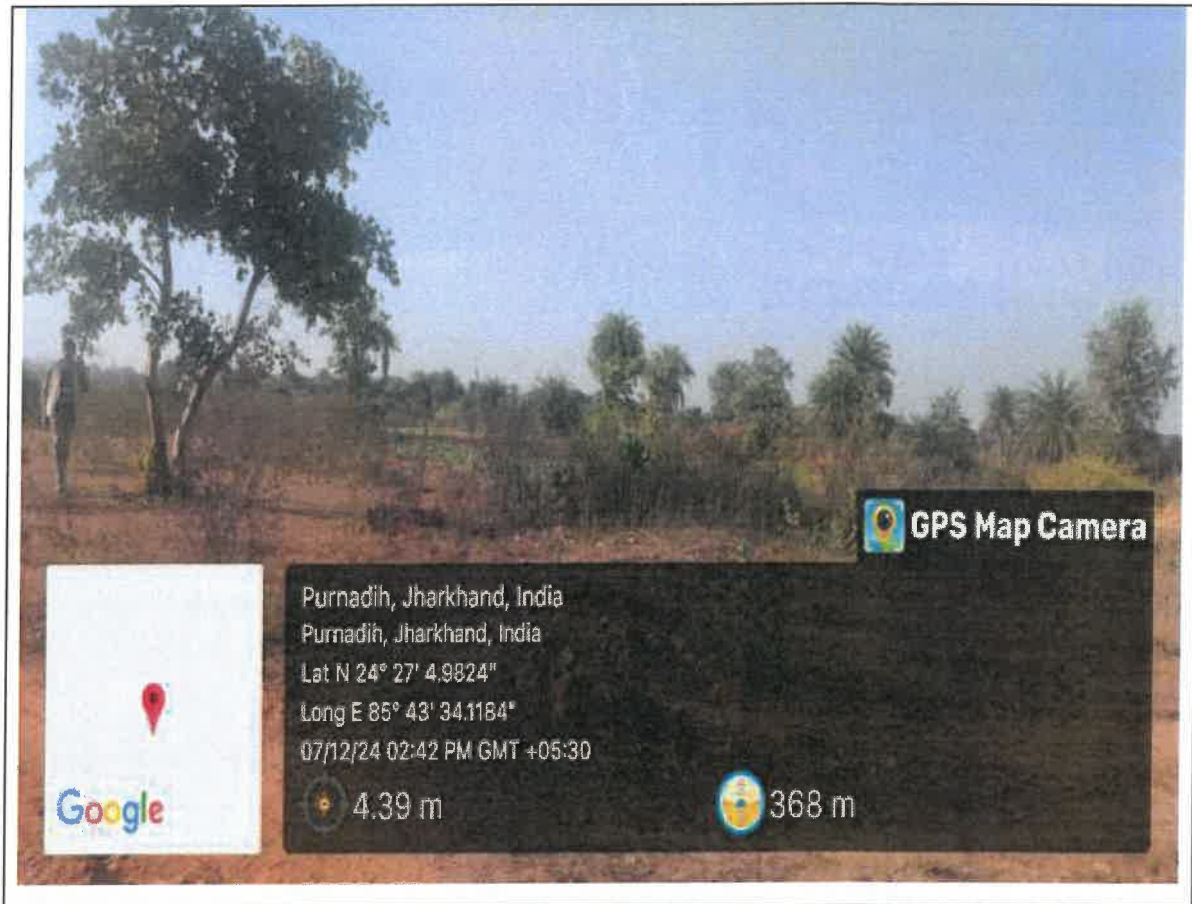


|                                        |                                                              |
|----------------------------------------|--------------------------------------------------------------|
| Number of tree on site                 | 80                                                           |
| Name of Mining Lease Holder            | M/s New Jharkhand Stone Mines,<br>Partner – Sanjay Kumar Ray |
| Location                               | Mauza – Bisodih, Area – 2.70 Acre                            |
| Area for plantation as per plan        | 0.27 Ha                                                      |
| Number of tree proposed in Mining Plan | 432                                                          |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



## Koderma District Survey Report for Stone



|                                        |                                   |
|----------------------------------------|-----------------------------------|
| Number of tree on site                 | 70                                |
| Name of Mining Lease Holder            | Sri Uday Mehta                    |
| Location                               | Mauza – Bisodih, Area – 6.38 Acre |
| Area for plantation as per plan        |                                   |
| Number of tree proposed in Mining Plan |                                   |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



8

## Koderma District Survey Report for Stone



|                                        |                                    |
|----------------------------------------|------------------------------------|
| Number of tree on site                 | 60                                 |
| Name of Mining Lease Holder            | Smt. Vimli Devi                    |
| Location                               | Mauza - Taratand, Area - 6.88 Acre |
| Area for plantation as per plan        | 0.37                               |
| Number of tree proposed in Mining Plan | 592                                |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

8





## Koderma District Survey Report for Stone



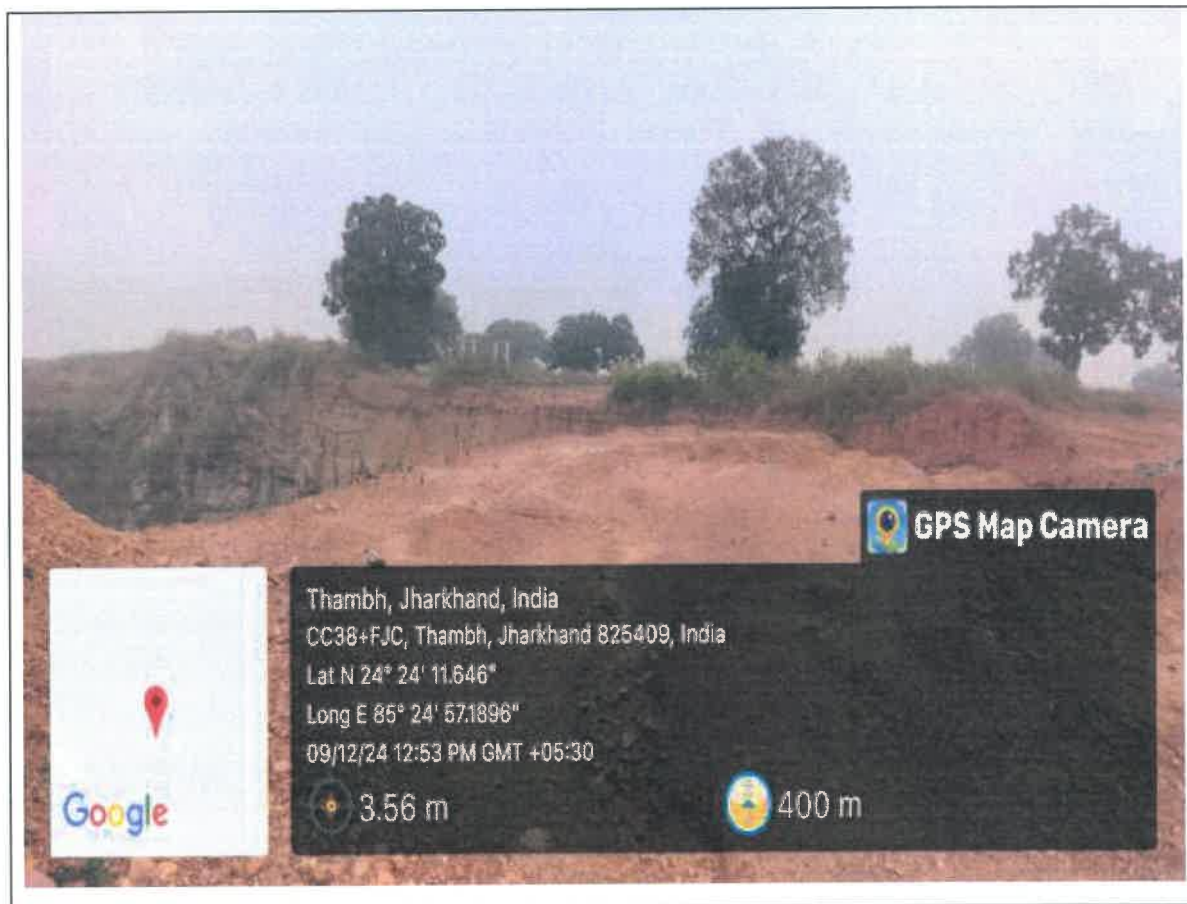
|                                        |                                                    |
|----------------------------------------|----------------------------------------------------|
| Number of tree on site                 | 50                                                 |
| Name of Mining Lease Holder            | M/s Panchshool Minerals Partner – Ramchandra Mehta |
| Location                               | Mauza – Tham, Area – 1.71 Acre                     |
| Area for plantation as per plan        | 0.32 Ha                                            |
| Number of tree proposed in Mining Plan | 512                                                |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



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## Koderma District Survey Report for Stone



|                                        |                                |
|----------------------------------------|--------------------------------|
| Number of tree on site                 | 20                             |
| Name of Mining Lease Holder            | M/s Ganpati Minerals           |
| Location                               | Mauza - Tham, Area - 0.92 Acre |
| Area for plantation as per plan        |                                |
| Number of tree proposed in Mining Plan |                                |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***





## Koderma District Survey Report for Stone



|                                        |                                                                 |
|----------------------------------------|-----------------------------------------------------------------|
| Number of tree on site                 | 15                                                              |
| Name of Mining Lease Holder            | M/s Anand Mines and Minerals,<br>Proprietor - Sri Captain Anand |
| Location                               | Mauza - Tham, Area - 1.4025 Acre                                |
| Area for plantation as per plan        | 0.278 Ha                                                        |
| Number of tree proposed in Mining Plan | 444                                                             |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



## Koderma District Survey Report for Stone



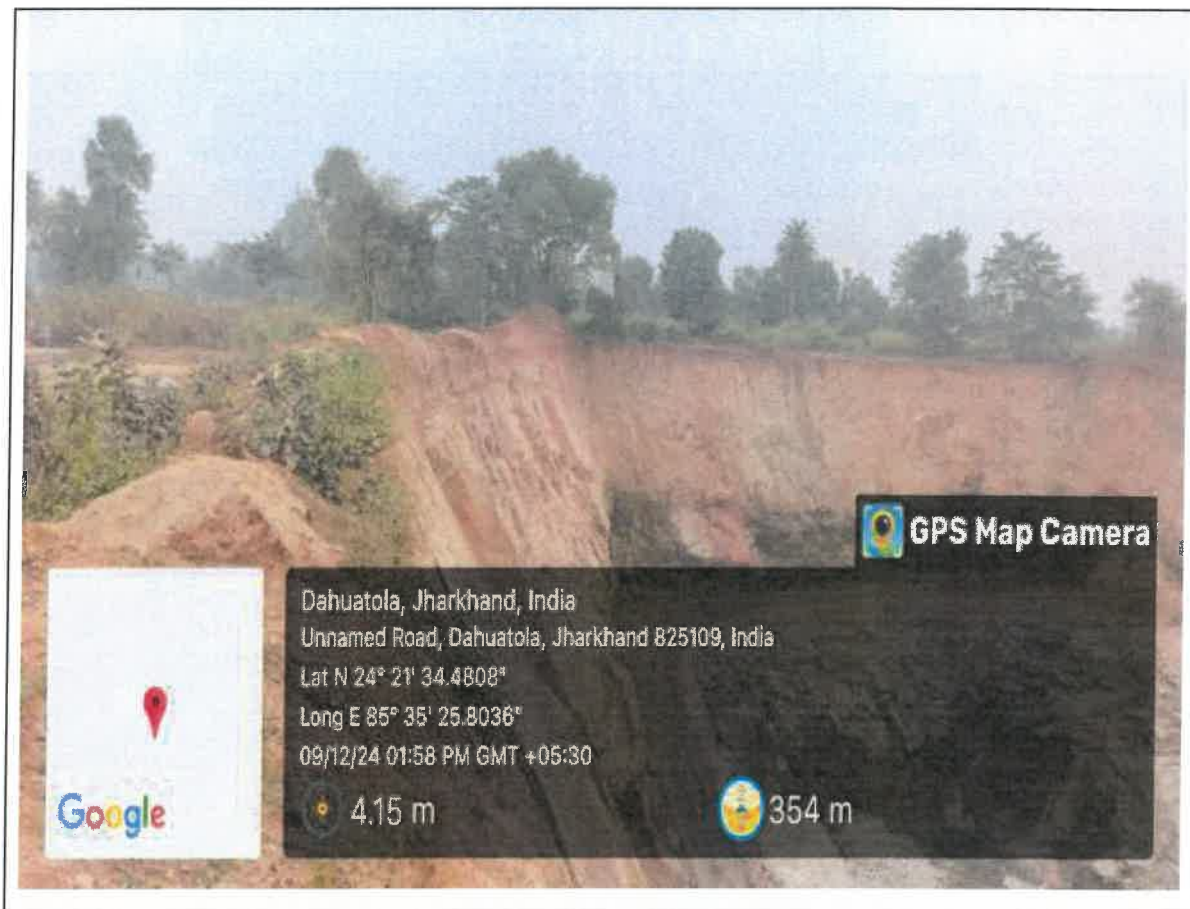
|                                        |                                                |
|----------------------------------------|------------------------------------------------|
| Number of tree on site                 | 80                                             |
| Name of Mining Lease Holder            | M/s Jai Mata Rani Minerals, Part. - Sri Mayank |
| Location                               | Mauza - Dahuatola, Area - 6.30 Acre            |
| Area for plantation as per plan        | 0.3 Ha                                         |
| Number of tree proposed in Mining Plan | 480                                            |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



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## Koderma District Survey Report for Stone



|                                        |                                                                       |
|----------------------------------------|-----------------------------------------------------------------------|
| Number of tree on site                 | 70                                                                    |
| Name of Mining Lease Holder            | 1. Sri Ravi Kumar Nirala<br>2. Sri Ashok Yadav<br>3. Sri Gautam Kumar |
| Location                               | Mauza - Dahuatola, Area - 1.92 Acre                                   |
| Area for plantation as per plan        | 0.245 Ha                                                              |
| Number of tree proposed in Mining Plan | 392                                                                   |

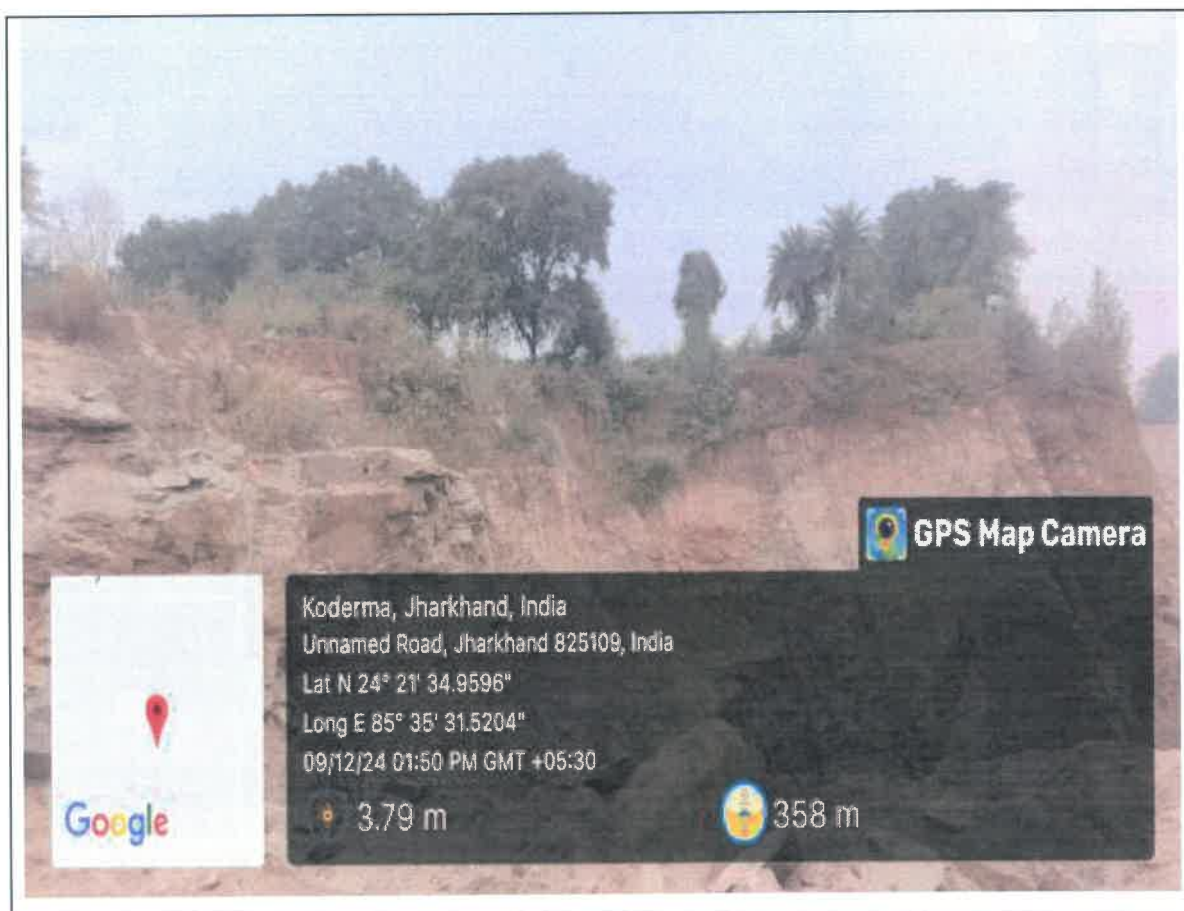
***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

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## Koderma District Survey Report for Stone



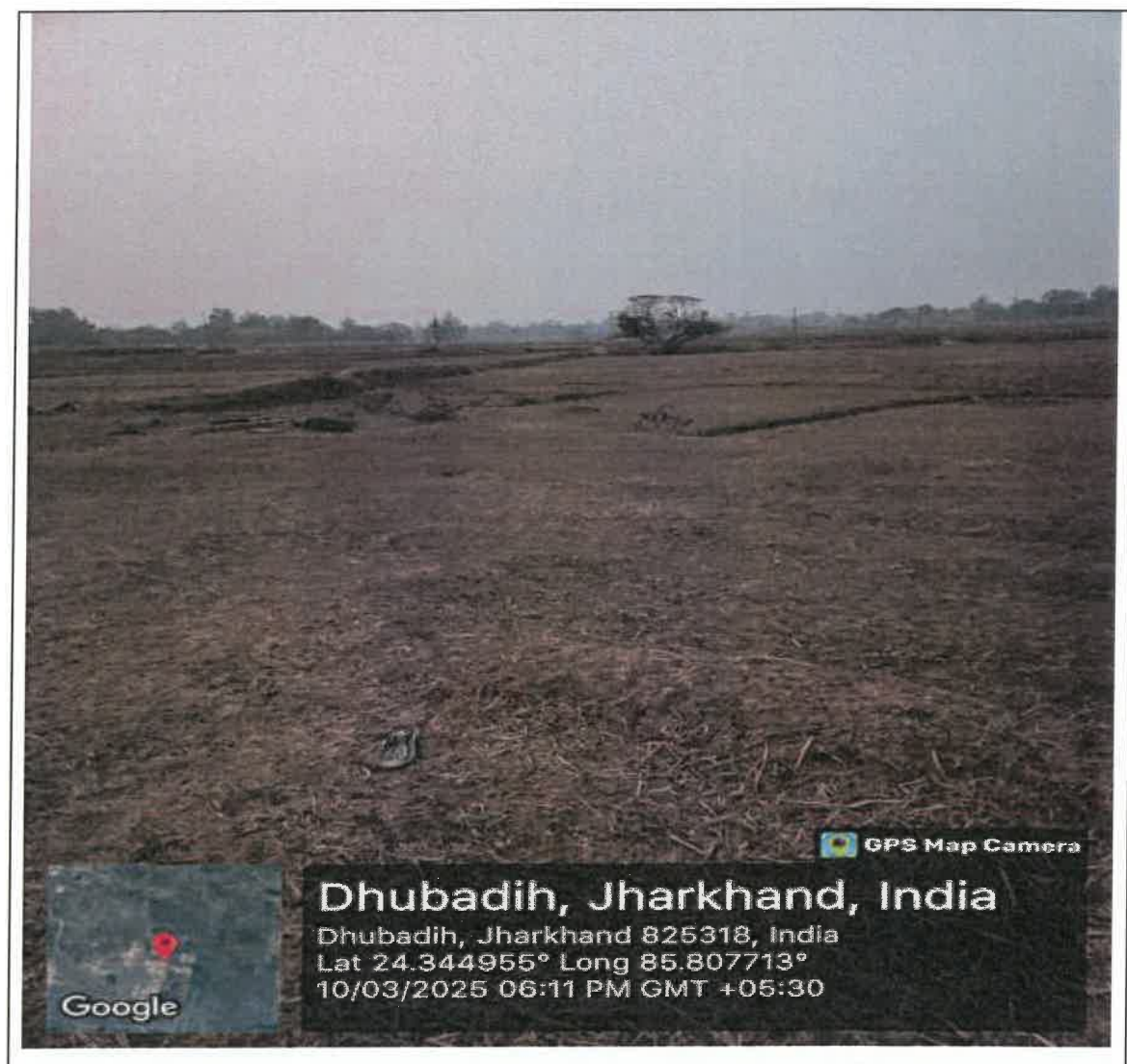
|                                        |                                             |
|----------------------------------------|---------------------------------------------|
| Number of tree on site                 | 60                                          |
| Name of Mining Lease Holder            | M/s Om Sai Stone, Partner - Sri Dilip Yadav |
| Location                               | Mauza - Dahuatola, Area - 2.78 Acre         |
| Area for plantation as per plan        | 0.44 Ha                                     |
| Number of tree proposed in Mining Plan | 704                                         |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

9



## Koderma District Survey Report for Stone



|                                        |                                     |
|----------------------------------------|-------------------------------------|
| Number of tree on site                 | 15                                  |
| Name of Mining Lease Holder            | M/s Shiv Parvati Stone Quarry       |
| Location                               | Mauza - Dahuatola, Area - 2.92 Acre |
| Area for plantation as per plan        | 0.398 Ha                            |
| Number of tree proposed in Mining Plan | 636                                 |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***





## Koderma District Survey Report for Stone



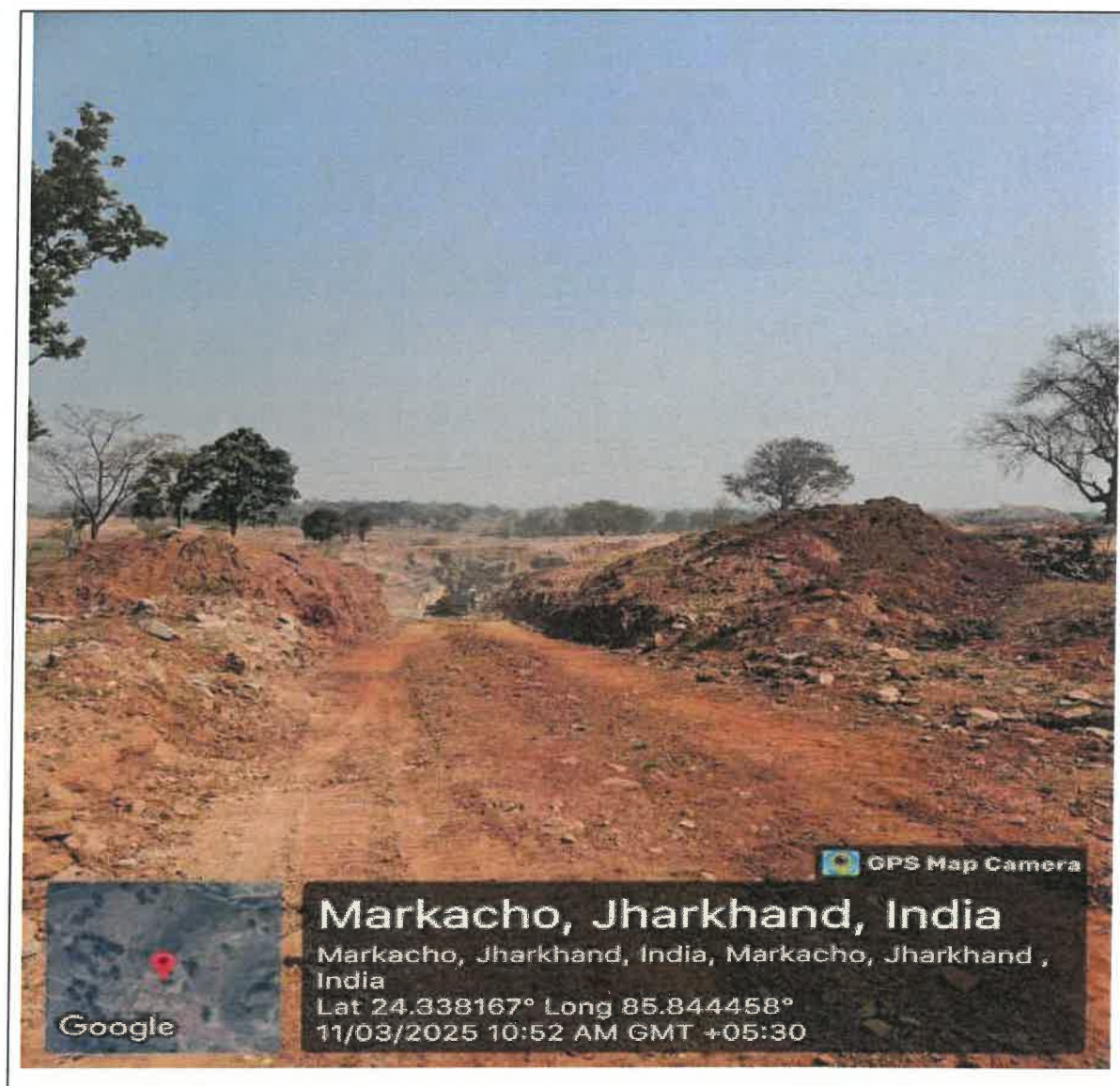
|                                        |                                   |
|----------------------------------------|-----------------------------------|
| Number of tree on site                 | 10                                |
| Name of Mining Lease Holder            | M/s Maa Tara Stone Works          |
| Location                               | Mauza - Dhubadih, Area - 5.0 Acre |
| Area for plantation as per plan        | 0.492 Ha                          |
| Number of tree proposed in Mining Plan | 787                               |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

9X



## Koderma District Survey Report for Stone



|                                        |                                    |
|----------------------------------------|------------------------------------|
| Number of tree on site                 | 60                                 |
| Name of Mining Lease Holder            | M/s Maa Durga Stone Chips          |
| Location                               | Mauza - Markacho, Area - 7.38 Acre |
| Area for plantation as per plan        | 0.859 Ha                           |
| Number of tree proposed in Mining Plan | 1374                               |

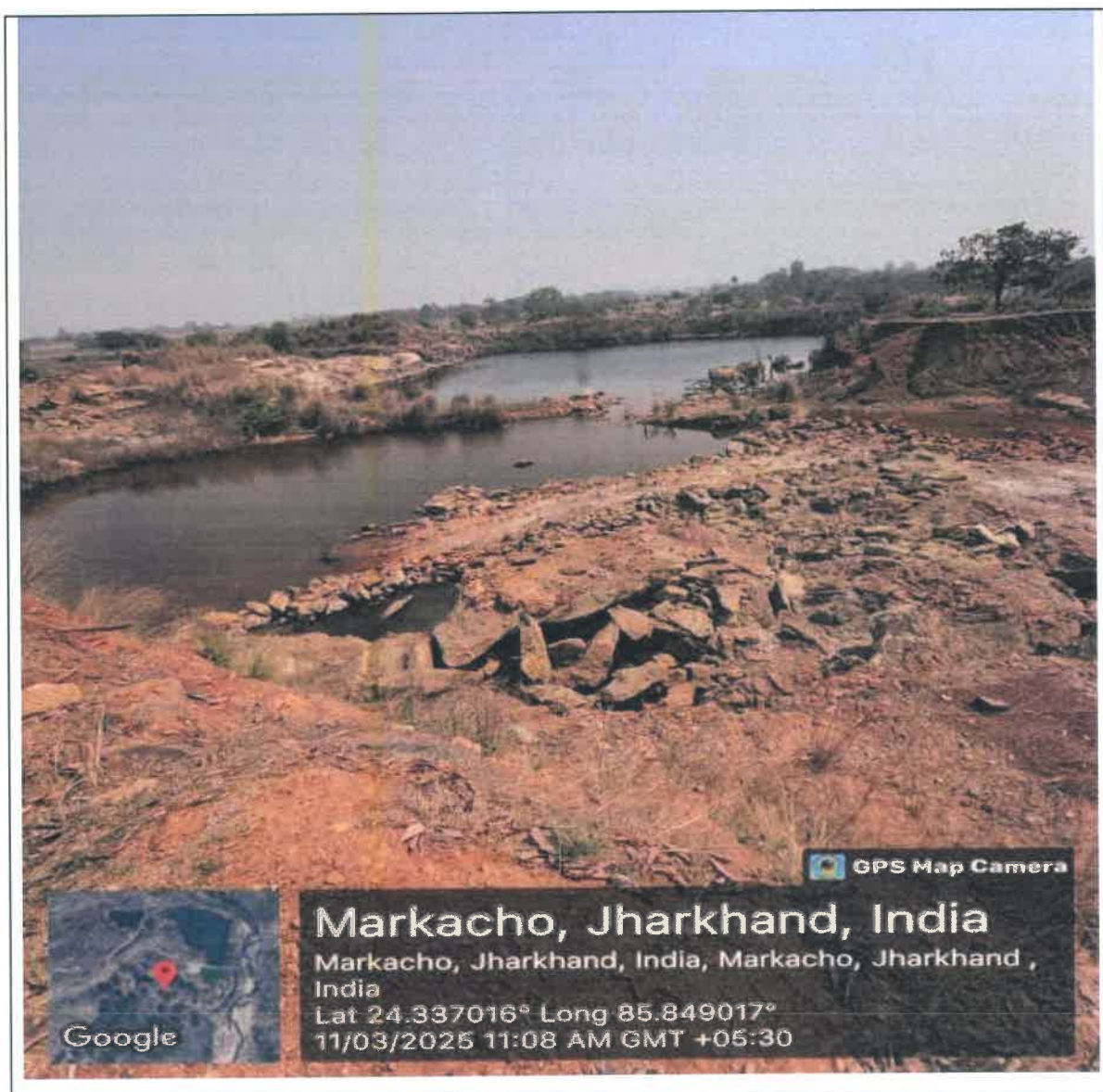
***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

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## Koderma District Survey Report for Stone



|                                        |                                    |
|----------------------------------------|------------------------------------|
| Number of tree on site                 | 20                                 |
| Name of Mining Lease Holder            | Maa Chanchalini Stone Minerals     |
| Location                               | Mauza - Markacho, Area - 4.66 Acre |
| Area for plantation as per plan        | 0.62 Ha                            |
| Number of tree proposed in Mining Plan | 992                                |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



## Koderma District Survey Report for Stone



|                                        |                              |
|----------------------------------------|------------------------------|
| Number of tree on site                 | 20                           |
| Name of Mining Lease Holder            | M/s Maa Jagdamba Stone Works |
| Location                               | Mauza - Domchanch            |
| Area for plantation as per plan        | 0.314 Ha                     |
| Number of tree proposed in Mining Plan | 502                          |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

*[Handwritten signature]*





## Koderma District Survey Report for Stone



|                                        |                           |
|----------------------------------------|---------------------------|
| Number of tree on site                 | 70                        |
| Name of Mining Lease Holder            | M/s Jharkhand Stone Mines |
| Location                               | Mauza - Nawalsahi         |
| Area for plantation as per plan        | 0.364 Ha                  |
| Number of tree proposed in Mining Plan | 582                       |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***



2



## Koderma District Survey Report for Stone



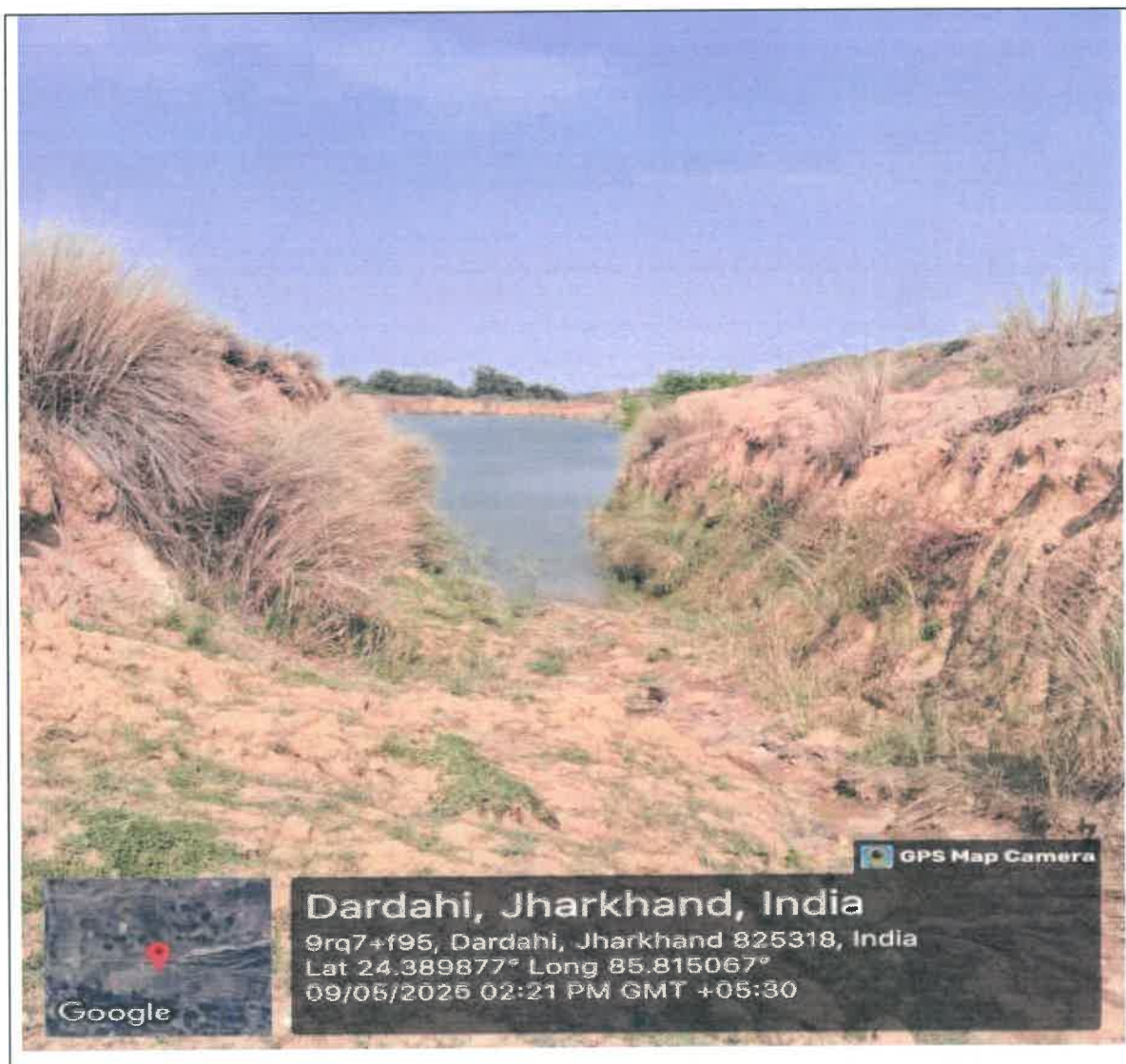
|                                        |                                    |
|----------------------------------------|------------------------------------|
| Number of tree on site                 | 90                                 |
| Name of Mining Lease Holder            | M/s Maruti Minerals                |
| Location                               | Mauza – Kharkhar, Area – 0.79 Acre |
| Area for plantation as per plan        | 0.168 Ha                           |
| Number of tree proposed in Mining Plan | 268                                |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months.***

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## Koderma District Survey Report for Stone



|                                        |                                   |
|----------------------------------------|-----------------------------------|
| Number of tree on site                 | 60                                |
| Name of Mining Lease Holder            | M/s Maruti Minerals               |
| Location                               | Mauza - Dardahi, Area - 8.53 Acre |
| Area for plantation as per plan        | 1.03 Ha                           |
| Number of tree proposed in Mining Plan | 1648                              |

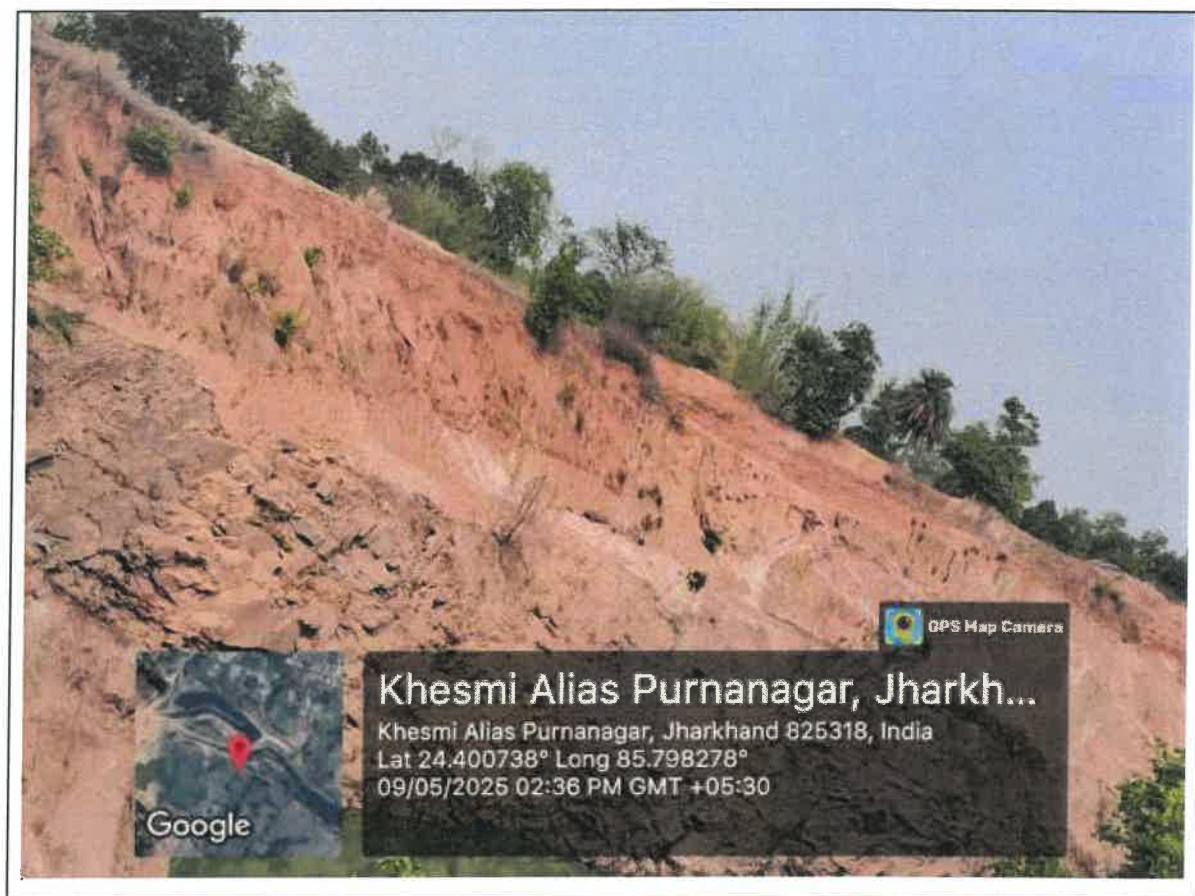
***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months***

2/





## Koderma District Survey Report for Stone



|                                        |                                                      |
|----------------------------------------|------------------------------------------------------|
| Number of tree on site                 | 110                                                  |
| Name of Mining Lease Holder            | M/s Maa Chanchalini Stone Works                      |
| Location                               | Mauza – Khesmi Alias Purnanagar,<br>Area – 2.07 Acre |
| Area for plantation as per plan        | 0.375 Ha                                             |
| Number of tree proposed in Mining Plan | 600                                                  |

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months***

*[Handwritten signature]*



## Koderma District Survey Report for Stone



|                                        |                                         |
|----------------------------------------|-----------------------------------------|
| Number of tree on site                 | 45                                      |
| Name of Mining Lease Holder            | M/s Pavitra Quarry Explosives Pvt. Ltd. |
| Location                               | Mauza -Khuha, Area - 5.44 Acre          |
| Area for plantation as per plan        | 0.75 Ha                                 |
| Number of tree proposed in Mining Plan | 1200                                    |

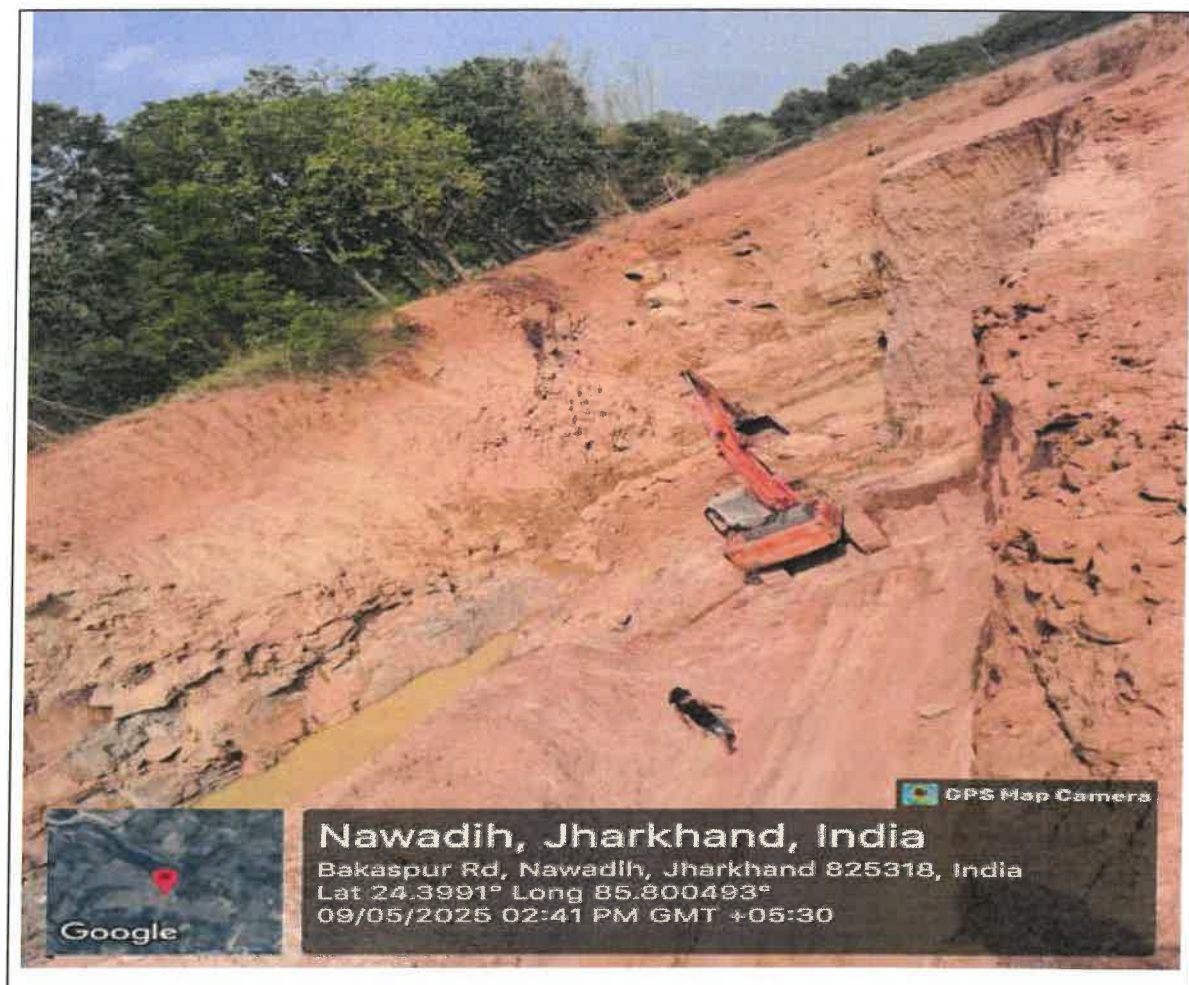
***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months***

2





## Koderma District Survey Report for Stone



|                                        |                                                  |
|----------------------------------------|--------------------------------------------------|
| Number of tree on site                 | 45                                               |
| Name of Mining Lease Holder            | M/s Anjani Sut Mining and Mineral Works          |
| Location                               | Mauza - Tolkhar and Nawadih,<br>Area - 3.16 Acre |
| Area for plantation as per plan        | 0.435 Ha                                         |
| Number of tree proposed in Mining Plan | 696                                              |

✍





## Koderma District Survey Report for Stone

***The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months***



|                                        |                                   |
|----------------------------------------|-----------------------------------|
| Number of tree on site                 | 60                                |
| Name of Mining Lease Holder            | M/s Shiv Stone Mining             |
| Location                               | Mauza – Nawadih, Area – 2.65 Acre |
| Area for plantation as per plan        |                                   |
| Number of tree proposed in Mining Plan |                                   |



## Koderma District Survey Report for Stone

*The authority will direct the concerned leases to carry out plantation in the safety zone as per provision in approved mining plan/EC/CTO within six months*

### 26.2 Propose Plantation and green belt within the lease area and around it serve different purposes including

- Mitigate air pollution
- Minimise the carbon foot print as it serves as sink & sequester carbon di - oxide produce oxygen
- Control soil erosion & helps in maintaining soil moisture
- It has aesthetic function as it screens the sight of the mine
- It also abets noise

### 26.3 Location

- Plantation / green belt in mining project should be developed at following location
- Safety zone: - 7.5m wide strip Edge of lease area they should be planted @ 2.5m c/c.
- Backfield area of part of quarry is proposed to be backfield with overburden material removed in course of mining of stone then plantation has to be raised over this area.
- Upper Benches of Mine - in lease it is proposed to use the quarry for water storage, then at post closure stage upper benches of quarry should be used for raising plantation.
- Unused Area - in those caser remains, unused then that area has to be used for development of green belt
- External dump  
External dumps, if not liquidated at closure of mine has to be used for raising plantation.
- Strip Plantation along. Both sides of link road

### 26.4 Species

Green belt/plantation should be developed using tree & shrubs. Species should be selected on following consideration.

- Native species
- Require less maintenance
- Are resistant to pollution

Species should be selected in consultation with local forest officials.

✕



## Koderma District Survey Report for Stone

### 26.5 Protection & Care

Arrangement for protection of plantation against grazing by animals & other anthropogenic pressure should be made.

Arrangement for proper watering has to be provided.

Plantation needs protection & care for at least 3 years.



OK

## Chapter – XXVII Other Information

### 27.1 Reference

| <b>Content as per Notification No.- S.O.3611 (E), dated: 25th July, 2018,</b>                  | <b>Status</b>                       | <b>Reference</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (1) Introduction;                                                                              | <b>Complied</b><br>In Chapter - I   | <b>Sub-Divisional Committee</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (2) Overview of Mining Activity in the District;                                               | <b>Complied</b><br>In Chapter – II  | <b>Old Approved DSR (Stone)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (3) General Profile of the District;                                                           | <b>Complied</b><br>In Chapter - III | <b>Census Report, 2011 &amp; District Statistical Handbook</b>                                                                                                                                                                                                                                                                                                                                                                                                      |
| (4) Geology of the District;                                                                   | <b>Complied</b><br>In Chapter - IV  | <b>Department of Mines &amp; Geology</b>                                                                                                                                                                                                                                                                                                                                                                                                                            |
| (5) Drainage of Irrigation pattern;                                                            | <b>Complied</b><br>In Chapter – V   | <b>Old Approved DSR (Stone)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| (6) Land Utilisation Pattern in the District: Forest, Agricultural, Horticultural, Mining etc. | <b>Complied</b><br>In Chapter – VI  | <b>Table No. 5.1 of District Statistical Handbook, Koderma (2021)</b>                                                                                                                                                                                                                                                                                                                                                                                               |
| (7) Surface Water and Ground Water scenario of the district                                    | <b>Complied</b><br>In Chapter – VII | <b>Old Approved DSR (Stone) Water Resources Information System REPORT ON DYNAMIC GROUND WATER RESOURCE OF JHARKHAND (2020) Published in February, 2022 Prepared by; Central Ground Water Board State Unit Office, Ranchi / Mid-Eastern Region, Patna Dept of Water Resources, River Development &amp; Ganga Rejuvenation Ministry of Jal Shakti, Government of India &amp; Ground Water Directorate Water Resources Department, Ranchi, Government of Jharkhand</b> |

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## Koderma District Survey Report for Stone

|                                                                                                                                        |                                      |                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (8) Rainfall of the district and climatic condition;                                                                                   | <b>Complied</b><br>In Chapter - VIII | <i>District Statistical Handbook, Koderma (2021) &amp; Climate of Jharkhand, issued by Climatological Publication Section of Indian Meteorological Department, Government of Jharkhand.</i> |
| (9) Details of the mining leases in the District as per the following format                                                           | <b>Complied</b><br>In Chapter - IX   | <b>District Mining Office</b>                                                                                                                                                               |
| (10) Details of Royalty or Revenue received in last three years;                                                                       | <b>Complied</b><br>In Chapter - X    | <b>District Mining Office</b>                                                                                                                                                               |
| (11) Details of Production of Minor Mineral in last three years;                                                                       | <b>Complied</b><br>In Chapter - XI   | <b>District Mining Office</b>                                                                                                                                                               |
| (12) Mineral Map of the District;                                                                                                      | <b>Complied</b><br>In Chapter - XII  | <b>Department of Mines &amp; Geology</b>                                                                                                                                                    |
| (13) List of Letter of Intent (LOI) Holders in the District along with its validity as per the following format:                       | <b>Complied</b><br>In Chapter - XIII | <b>District Mining Office</b>                                                                                                                                                               |
| (14) Total Mineral Reserve available in the District;                                                                                  | <b>Complied</b><br>In Chapter - XIV  | <b>District Mining Office</b>                                                                                                                                                               |
| (15) Quality /Grade of Mineral available in the District;                                                                              | <b>Complied</b><br>In Chapter - XV   | <b>Department of Mines &amp; Geology</b>                                                                                                                                                    |
| (16) Use of Mineral;                                                                                                                   | <b>Complied</b><br>In Chapter - XVI  | <b>Sub-Divisional Committee</b>                                                                                                                                                             |
| (17) Demand and Supply of the Mineral in the last three years;                                                                         | <b>Complied</b><br>In Chapter - XVII | <b>Department of Mines &amp; Geology</b>                                                                                                                                                    |
| (18) Mining leases marked on the map of the district;                                                                                  | <b>Complied</b> In Chapter - XVIII   | <b>Department of Mines &amp; Geology</b>                                                                                                                                                    |
| (19) details of the area of where there is a cluster of mining leases viz. number of mining leases, location (latitude and longitude); | <b>Complied</b><br>In Chapter - XIX  | <b>Department of Mines &amp; Geology</b>                                                                                                                                                    |
| (20) Details of Eco-Sensitive Area, if any, in the District;                                                                           | <b>Complied</b><br>In Chapter - XX   | <b>Sub-Divisional Committee</b>                                                                                                                                                             |
| (21) Impact on the Environment (Air, Water, Noise, Soil, Flora & Fauna, land use, agriculture, forest etc.) due to mining activity;    | <b>Complied</b><br>In Chapter - XXI  | <b>Sub-Divisional Committee</b>                                                                                                                                                             |
| (22) Remedial Measures to mitigate the impact of mining on                                                                             | <b>Complied</b><br>In Chapter - XXII | <b>Sub-Divisional Committee</b>                                                                                                                                                             |

OK





## Koderma District Survey Report for Stone

|                                                                                                                                                                        |                                       |                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------------|
| the Environment;                                                                                                                                                       |                                       |                                     |
| (23) Reclamation of Mined out area (best practice already implemented in the district, requirement as per rules and regulation, proposed reclamation plan);            | <b>Complied</b><br>In Chapter – XXIII | <b>Sub-Divisional Committee</b>     |
| (24) Risk Assessment & Disaster Management Plan;                                                                                                                       | <b>Complied</b><br>In Chapter – XXIV  | <b>Sub-Divisional Committee</b>     |
| (25) 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); | <b>Complied</b><br>In Chapter – XXV   | <b>District TB Officer, Koderma</b> |
| (26) Plantation and Green Belt development in respect of leases already granted in the District;                                                                       | <b>Complied</b><br>In Chapter – XXVI  | <b>Sub-Divisional Committee</b>     |
| (27) Any other information.                                                                                                                                            | <b>Complied</b><br>In Chapter - XXVII |                                     |

### 27.2 Public Consultation

The District Survey Report was prepared for Stone Minor Mineral in the District separately and its draft was placed in the public domain on 15/10/2024 by keeping its copy in Collectorate and posting it on district's website for twenty-one days.

[Koderma District Survey Report \(DSR\)](https://koderma.nic.in/mineral/stone-mineral/foundation/koderma/)

4. Divisional Forest Officer, Koderma - member

5. District Assistant Mining Officer, Koderma - member

6. Chief Surveyor, Koderma - member

7. District Panchayat Raj Officer, Koderma - member

**District Survey Report (DSR)**

District Survey Report (Updated) 15/10/2024 (PDF 2.04 MB)

**Updated Report Under DMET**

1. Mineral Details under DMET

2. DMET III AOM

3. Details of Sanction Project under DMET

4. DMET-Related Report 10/06/2024



## Koderma District Survey Report for Stone

No comments/suggestions were received during the period of public consultation. This report is being recommended and forwarded to SEIAA from Sub-Divisional Committee, Koderma for its approval.



2

# ANNEXURE- I



8



# Institute for Environmental Management

## Test Report

|                                                                                                                                                                      |   |                 |                              |   |                             |   |   |   |              |                                              |   |   |                        |   |   |   |                |   |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------------|------------------------------|---|-----------------------------|---|---|---|--------------|----------------------------------------------|---|---|------------------------|---|---|---|----------------|---|--|--|
| ULR No.:                                                                                                                                                             | T | C               | 1                            | 1 | 5                           | 1 | 5 | 2 | 5            | 0                                            | 0 | 0 | 0                      | 0 | 0 | 0 | 0              | 5 |  |  |
| Discipline: Chemical                                                                                                                                                 |   |                 | Group: Atmospheric Pollution |   |                             |   |   |   |              |                                              |   |   | Sub-Group: Ambient Air |   |   |   |                |   |  |  |
| Report Issue Date: 20-01-2025                                                                                                                                        |   |                 |                              |   |                             |   |   |   |              | Test Report No.: RN-250115001A               |   |   |                        |   |   |   |                |   |  |  |
| Sample ID: 250117AP01001-002-003                                                                                                                                     |   |                 |                              |   |                             |   |   |   |              | Sample Description: Ambient Air              |   |   |                        |   |   |   |                |   |  |  |
| Challan No./P.O. No.: 21284346                                                                                                                                       |   |                 |                              |   |                             |   |   |   |              | Challan No./P.No. Date: 15-01-2025           |   |   |                        |   |   |   |                |   |  |  |
| Issued to:<br>M/s Jai Mata Di Stone Chips (Old name M/S.BLUE DIAMOND RESOURCES PVT. LTD.) MOUZA- JAMDIHA,<br>PS - NAWALSAHI, THANA NO .- 104, DOMCHANCH Dist-KODERMA |   |                 |                              |   |                             |   |   |   |              |                                              |   |   |                        |   |   |   |                |   |  |  |
| Type of Industry: Stone Crusher                                                                                                                                      |   |                 |                              |   |                             |   |   |   |              | Customer Representative: Santosh Kumar Gupta |   |   |                        |   |   |   |                |   |  |  |
| Sample Drawn by: IEM Team                                                                                                                                            |   |                 |                              |   |                             |   |   |   |              | Sampling Date: 16-01-2025 to 17-01-2025      |   |   |                        |   |   |   |                |   |  |  |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series                                                                                                  |   |                 |                              |   |                             |   |   |   |              |                                              |   |   |                        |   |   |   |                |   |  |  |
| Sampling Location                                                                                                                                                    | A | Near Office     |                              |   |                             |   |   |   |              | Co-ordinates: 24°25'30.64"N to 85°46'55.32"E |   |   |                        |   |   |   |                |   |  |  |
|                                                                                                                                                                      | B | Near Entrance   |                              |   |                             |   |   |   |              | Co-ordinates: 24°25'29.13"N to 85°46'55.01"E |   |   |                        |   |   |   |                |   |  |  |
|                                                                                                                                                                      | C | Near Stock Yard |                              |   |                             |   |   |   |              | Co-ordinates: 24°25'29.85"N to 85°46'56.41"E |   |   |                        |   |   |   |                |   |  |  |
| Field Meteorological Information                                                                                                                                     |   |                 |                              |   | A. Temp. (°C): 16           |   |   |   | R.H. (%): 68 |                                              |   |   | W.C.: Partly Sunny     |   |   |   | W.D.: NW to SE |   |  |  |
| Sample Receiving Date: 17-01-2025                                                                                                                                    |   |                 |                              |   | Testing Started: 17-01-2025 |   |   |   |              | Testing Ended: 20-01-2025                    |   |   |                        |   |   |   |                |   |  |  |

### ---Test Results---

| Sl.No. | Parameters                              | Test Method No. | Unit              | Standard Norms** | Results |    |    |
|--------|-----------------------------------------|-----------------|-------------------|------------------|---------|----|----|
|        |                                         |                 |                   |                  | A       | B  | C  |
| 1.     | Particulate Matter (PM <sub>10</sub> )  | IS 5182 Part 23 | µg/m <sup>3</sup> | 100              | 72      | 68 | 76 |
| 2.     | Particulate Matter (PM <sub>2.5</sub> ) | IS 5182 Part 24 | µg/m <sup>3</sup> | 60               | 32      | 28 | 36 |
| 3.     | Sulphur Dioxide (SO <sub>2</sub> )      | IS 5182 Part-02 | µg/m <sup>3</sup> | 80               | 19      | 17 | 23 |
| 4.     | Nitrogen Dioxide (NO <sub>2</sub> )     | IS 5182 Part-06 | µg/m <sup>3</sup> | 80               | 28      | 26 | 34 |

### ---End of Report---

|                        |                                                                                                                       |
|------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation           | MDL: Minimum Detection Limit, BDL: Below Detection Limit                                                              |
| Norms** is Specified   | National Ambient Air Quality Standards (NAAQS), 2009.                                                                 |
| Remark                 | Sample Comply with prescribed specification.                                                                          |

Tested By: Akanksha Sourabh

Sample Drawn By: Aniket Mundu & Team



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                      |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------|
| Specific Contractual Notes:-<br>1. The laboratory accepts responsibility for content of this report.<br>2. This report shall not be reproduced except in full, without written approval of the MD.<br>3. This report is intended for only guidance and not for legal purpose or for advertisement.<br>4. Any complaint about this report should be communicated in writing within 7 days of its issue.<br>5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.<br>6. In case of feedback/ complaints, please send an email at <a href="mailto:info@iemindia.com">info@iemindia.com</a> | Reviewed by       | Authorized Signatory |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                   |                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | (Tauqeer Ahmad)   | (Dr. S. C. Jain)     |
| On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Technical Manager | Director             |





# ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



Accredited by : NABL Accredited Testing Laboratory Vide Certificate No. TC -12989  
Registered by : Jharkhand State Pollution Control Board (JSPCB)  
Certified by : ISO 9001:2015 & ISO 45001:2018

TC-12989

## Test Report

|                               |                                                                                                                                              |       |                       |   |   |                              |   |   |                        |   |              |   |   |            |   |                   |   |   |  |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------------------|---|---|------------------------------|---|---|------------------------|---|--------------|---|---|------------|---|-------------------|---|---|--|
| ULR (Unique Lab Report) No.   | TC                                                                                                                                           | 1     | 2                     | 9 | 8 | 9                            | 2 | 4 | 0                      | 0 | 0            | 0 | 0 | 1          | 1 | 1                 | 3 | F |  |
| Discipline                    | Chemical                                                                                                                                     | Group | Atmospheric Pollution |   |   | Sample Description           |   |   | Ambient Air Quality    |   |              |   |   |            |   |                   |   |   |  |
| Report Release Date           | 09 <sup>th</sup> November, 2024                                                                                                              |       |                       |   |   | Report ID                    |   |   | YBAEEL-2411-02         |   |              |   |   |            |   |                   |   |   |  |
| W. Order / JSPCB App. No.     | 20639196                                                                                                                                     |       |                       |   |   | Work Order Date              |   |   | 05.11.2024             |   |              |   |   |            |   |                   |   |   |  |
| Type of Industry (If any)     | Stone Mines                                                                                                                                  |       |                       |   |   | Job code/ Ref. no.           |   |   | YBAEEL/C/A/Nov.- 24/03 |   |              |   |   |            |   |                   |   |   |  |
| Report Issue to               | M/s Bisodih Stone Deposit of Shri Uday Mehta<br>Village - Bisodih, Thana - Nawalshahi, Thana No.- 218,<br>Dist.- Koderma, State - Jharkhand. |       |                       |   |   |                              |   |   |                        |   |              |   |   |            |   |                   |   |   |  |
| Sampling Period               | 06/11/2024 - 07/11/2024                                                                                                                      |       |                       |   |   | Mode of sample collection    |   |   | By YBAEEL Team         |   |              |   |   |            |   |                   |   |   |  |
| Sampling Plan                 | YBAEEL/SP/198-2024                                                                                                                           |       |                       |   |   |                              |   |   |                        |   |              |   |   |            |   |                   |   |   |  |
| Sampling Locations            | A. North Side                                                                                                                                |       |                       |   |   | 24°27'05.40"N, 85°43'31.33"E |   |   |                        |   |              |   |   |            |   |                   |   |   |  |
|                               | B. South Side                                                                                                                                |       |                       |   |   | 24°27'05.15"N, 85°43'28.65"E |   |   |                        |   |              |   |   |            |   |                   |   |   |  |
|                               | C. East Side                                                                                                                                 |       |                       |   |   | 24°27'04.87"N, 85°43'34.89"E |   |   |                        |   |              |   |   |            |   |                   |   |   |  |
| Meteorological Cond. of Field | W.C.- Clear                                                                                                                                  |       |                       |   |   | RH % - 51                    |   |   |                        |   | Temp. - 29°C |   |   |            |   | W.D.- North-South |   |   |  |
| Sample receipt Date           | 07/11/2024                                                                                                                                   |       | Analysis Started on   |   |   | 07/11/2024                   |   |   | Analysis completed on  |   |              |   |   | 09/11/2024 |   |                   |   |   |  |

### \*\*\*\*\*Test Results\*\*\*\*\*

| Parameters                              | Test Methods                 | Units             | Sampling Location |        |        | Limits |
|-----------------------------------------|------------------------------|-------------------|-------------------|--------|--------|--------|
|                                         |                              |                   | Site A            | Site B | Site C |        |
| Particulate matter (PM <sub>10</sub> )  | IS:5182 (P-23) 2006, RA 2022 | µg/m <sup>3</sup> | 78.2              | 84.6   | 80.5   | 100    |
| Particulate matter (PM <sub>2.5</sub> ) | IS:5182 (P-24) 2019          | µg/m <sup>3</sup> | 28.6              | 36.1   | 31.9   | 60     |
| Sulphur Dioxide (SO <sub>2</sub> )      | IS:5182 (P-2/Sec1) 2023      | µg/m <sup>3</sup> | 9.7               | 10.4   | 6.6    | 80     |
| Nitrogen Dioxide (NO <sub>2</sub> )     | IS:5182 (P-6) 2006 RA 2022   | µg/m <sup>3</sup> | 13.6              | 18.9   | 15.6   | 80     |

|                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Limit is specified as      | Environmental (Protection) Rule - 1986.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Abbreviation               | NABL - National Accreditation Board, BDL - Below Detection Limit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Env. Condition of Lab      | Laboratory is maintaining Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Specific contractual notes | All values are expressed in SI unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.<br>This report, in full or in part, shall not be used for advertising or as evidence in any court of law.<br>This report cannot be reproduced, copied or used in full without the written permission of the CEO.<br>The samples collected shall be analysed within 7 days from the date of issue of the certificate unless specified otherwise.<br>The liability of the laboratory is limited to the analysis reported herein.<br>All test results are subject to the terms and conditions of the contract. |
| Remarks                    | Samples comply with prescribed limits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

Sample Drawn By - Mukesh Singh  
Tested By - Akash Khalkho (Lab Analyst)



Verified & Issued by  
Sanjeev Kumar Singh  
(Technical Manager)

Authorized Signatory  
Atmospheric Pollution  
Yugandhar Singh, Manager  
Environmental Engineering Laboratory

\*\*\*\*\*End of Report\*\*\*\*\*

Enquiry Office - Jamshedpur Dhanbad Hazaribag Pakur  
Main Office-Cum Laboratory :- Plot No. 551, Khata No 62, Sidroul, P.O. Namkum, P.S. Namkum, Ranchi, Jharkhand  
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Lab Address: - Vrindavan Colony, Opp. "KHABAR MANTRA" Plot no - 4,  
Road no - 2, Boreya, Ranchi - 834006 (Jharkhand)

Certified by ISO 9001:2015, ISO 14001:2015 & ISO45001:2018



### NOISE MONITORING REPORT

Report No: TSC/R/23-24/TR-No- 0801/03

Issue Date: 01.12.2023

|                      |                                                                                                                                       |                                                       |                                                        |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------|
| Issue To,            | M/s Maa Chanchalini Stone Chips, At - Purnanagar, PO - Kheshmi, PS - Nawalsahi, Block - Markacho, Distt - Koderma, Jharkhand - 825412 |                                                       |                                                        |
| Work Order no.       | JSPCB Application No: 17796046                                                                                                        |                                                       | JSPCB Application Date: 14.11.2023                     |
| Type of Industry     | Stone Crusher                                                                                                                         |                                                       |                                                        |
| Job Code No.         | TSC/LAB-2/NOISE/S - 96                                                                                                                | Sample Code                                           | TSC/PB/NOISE/23-24/96                                  |
| Sampling Period      | 24.11.2023 – 25.11.2023                                                                                                               | Sample Collected By:                                  | TSC Team                                               |
| Sampling Protocol    | IS:9989 - 1981 (RA-2001)                                                                                                              |                                                       |                                                        |
| Sampling Location    | Site 1<br>Lat – 24°24'7.70" N<br>Long – 85°47'11.45"E                                                                                 | Site 2<br>Lat – 24°24'6.47" N<br>Long – 85°47'13.70"E | Site 3<br>Lat – 24°24'6.10" N<br>Long – 85°47'11.70" E |
| Meteorological Cond. | W.C - Clear                                                                                                                           | Avg. Temp.(°C) – 22.5                                 | RH (%) - 51                                            |

### TEST RESULTS

| Sampling Location                                     | Site 1   |              |                      |              |
|-------------------------------------------------------|----------|--------------|----------------------|--------------|
| Site 1<br>Lat - 24°24'7.70" N<br>Long - 85°47'11.45"E | Day Time | Leq in dB(A) | Night Time           | Leq in dB(A) |
|                                                       | 11:10 AM | 64.3         | 10:25 PM<br>02:25 AM | 52.3<br>51.7 |
|                                                       | 03:10 PM | 65.5         |                      |              |
|                                                       | 06:20 AM | 63.8         |                      |              |
|                                                       | 10:20 AM | 64.8         |                      |              |
| Maximum                                               |          | 65.5         |                      | 52.3         |
| Average                                               |          | 64.6         |                      | 52.1         |
| Sampling Location                                     | Site 2   |              |                      |              |
| Site 2<br>Lat - 24°24'6.47" N<br>Long - 85°47'13.70"E | Day Time | Leq in dB(A) | Night Time           | Leq in dB(A) |
|                                                       | 11:30 AM | 64.3         | 10:35 PM<br>02:35 AM | 53.1<br>52.1 |
|                                                       | 03:30 PM | 63.7         |                      |              |
|                                                       | 06:40 AM | 63.9         |                      |              |
|                                                       | 10:40 AM | 64.1         |                      |              |
| Maximum                                               |          | 64.3         |                      | 53.9         |
| Average                                               |          | 64.0         |                      | 53.3         |





A Unit of Technology Solution Consultants LLP

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Certified by ISO 9001:2015, ISO 14001:2015 & ISO45001:2018



### AMBIENT AIR QUALITY REPORT

Report No: TSC/R/24-25/TR-No - 0330

Issue Date: 30.07.2024

|                      |                                                                                      |                                    |                          |
|----------------------|--------------------------------------------------------------------------------------|------------------------------------|--------------------------|
| Issue To,            | JAI MAA AMBEY STONE CHIPS<br>: AT - JAMDIHA, PS- NAWALSHAHI, KODERMA<br>Dist-KODERMA |                                    |                          |
| Work Order no.       | JSPCB Application No: 19769946                                                       | JSPCB Application Date: 10-07-2024 |                          |
| Types Of Industry    | Stone Chips                                                                          |                                    |                          |
| Sample Code          | TSC/PB/EV/24-25/80                                                                   |                                    |                          |
| Sampling Period      | 14.07.2024-15.07.2024                                                                | Sample Collected By:               | : TSC Team               |
| Sampling Protocol    | IS:5182 and CPCB Air Manual Volume-1(NAAQM/36/2012-13)                               |                                    |                          |
| Sampling Location    | Site 1<br>Near Main Entrance                                                         | Site 2<br>Near North Side          | Site 3<br>Near East Side |
| Meteorological Cond. | W.C - Clear                                                                          | Avg. Temp.(°C) – 39°               | RH (%) - 57              |

### TEST RESULTS

| Parameters                 | Test Method         | Units | Sampling Location |        |        | As per required NAAQS (2009) |
|----------------------------|---------------------|-------|-------------------|--------|--------|------------------------------|
|                            |                     |       | Site 1            | Site 2 | Site 3 |                              |
| Particulate Matter (PM10)  | IS:5182 (P-23) 2006 | µg/m³ | 73.2              | 71.7   | 75.0   | 100                          |
| Particulate Matter (PM2.5) | IS:5182 (P-24) 2019 | µg/m³ | 32.3              | 31.4   | 32.1   | 60                           |
| Sulphur Dioxide (SO2)      | IS:5182 (P-2) 2001  | µg/m³ | 11.2              | 10.8   | 11.8   | 80                           |
| Nitrogen Dioxide (NOx)     | IS:5182 (P-6) 2006  | µg/m³ | 25.6              | 24.9   | 27.3   | 80                           |

Remarks : All Parameters are found within the limit as per required NAAQS (2009).

### END OF RESULT

1. The results relate only to the sample tested.
3. The test report shall not be reproduced without written approval of the laboratory.



Rahul  
30/7/24  
LAB ANALYST



Bm  
AUTHORIZED SIGNATORY

Registered Office: - 2nd floor, office unit no - 303 C/B, Gopal Marketing Complex, Near firayalnext, Ranchi, Jharkhand  
Branch Office: TSC Lab, Magorghata, Kumhar Road, Near Mahadevghat, Greater Raipur - 490042 (Chhattisgarh)





# Sabz Care Environmental Consultancy Pvt. Ltd.



lets start thinking about nature for tomorrow

## TEST REPORT

|                                 |                                                                                                                             |                         |                            |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------|
| Unique Lab Report No. (ULR No.) | TC994824000000149F                                                                                                          |                         |                            |
| Name of Customer                | M/s Brahma Stone Chips                                                                                                      | Work order No.-         | 18159729 (Date-30.12.2023) |
| Address                         | Vill- Bindomoh, P.S.-Nawalsahi<br>District-Koderma, Jharkhand                                                               | Particular of the Plant | Stone Crusher Unit         |
| Discipline                      | Chemical                                                                                                                    | Group                   | Atmospheric Pollution      |
| Date of Sampling                | 02.01.2024 to 03.01.2024                                                                                                    | Sample Collected by     | Vivek kr Malkar & Team     |
| Sample Receiving Date           | 03.01.2024                                                                                                                  | Sample Condition        | Sealed and Preserved       |
| Sample Details                  | Ambient Air                                                                                                                 | Sampling Plan           | SCECPL/SOP/AA/01           |
| Sampling Method                 | IS 5182 and CPCB Air Manual Volume I (NAAQM/36/2012-13)                                                                     |                         |                            |
| Type of Sample                  | Suspended Dust and Gases                                                                                                    | Sample Drawn By         | Sabz Care Lab              |
| Sample ID                       | SCECPL/TR/24/05/AA-10                                                                                                       | Plant Status            | Operational                |
| Period of Analysis              | 03.01.2024 to 04.01.2024                                                                                                    | Report Release Date     | 04.01.2024                 |
| Meteorological Information      | Average Ambient Temperature : 17.0 °C, Barometric Pressure :1018 mBar<br>Relative Humidity : 60%, Weather Condition - Clear |                         |                            |

### A. GENERAL INFORMATION

Location of Sampling: Location-1: North East Side of the Unit (Coordinates- 24°25'46.87"N to 85°46'58.15"E)  
Location- 2: South West Side of the Unit (Coordinates- 24°25'46.34"N to 86°46'56.73"E)  
Location- 3: North West Side of the Unit (Coordinates- 24°25'47.19"N to 86°46'57.17"E)  
Duration of Sampling: 24 hours

### B. TEST RESULTS

| S.N. | PARAMETERS                              | UNIT              | TEST METHOD       | RESULTS<br>(Location-1) | RESULTS<br>(Location-2) | RESULTS<br>(Location-3) | Requirements<br>as per NAAQS<br>2009 |
|------|-----------------------------------------|-------------------|-------------------|-------------------------|-------------------------|-------------------------|--------------------------------------|
| 1.   | Particulate Matter as PM <sub>2.5</sub> | µg/m <sup>3</sup> | IS 5182 (Part 24) | 53.84                   | 52.24                   | 49.40                   | 60 (µg/m <sup>3</sup> )              |
| 2.   | Particulate Matter as PM <sub>10</sub>  | µg/m <sup>3</sup> | IS 5182 (Part 23) | 92.86                   | 90.15                   | 87.34                   | 100 (µg/m <sup>3</sup> )             |
| 3.   | Sulphur Dioxide as SO <sub>2</sub>      | µg/m <sup>3</sup> | IS 5182(Part 2)   | 28.12                   | 26.56                   | 25.78                   | 80 (µg/m <sup>3</sup> )              |
| 4.   | Nitrogen Dioxide as NO <sub>2</sub>     | µg/m <sup>3</sup> | IS 5182(Part 6)   | 32.39                   | 30.49                   | 29.22                   | 80 (µg/m <sup>3</sup> )              |

\*\*\* END OF REPORT \*\*\*

Remarks: The ambient air quality with respect to Particulate matters, SO<sub>2</sub> and NO<sub>2</sub> are within the prescribed National Ambient Air Quality Standard.

- Test values are reported based on the samples received.
- Samples will be destroyed after 15 days from date of issues of the Test Report subject to nature of preservation. Samples will be preserved as per the standard method.

X



Authorized Signatory



Registered Office : Aarti Bhawan, Bawan Bighas, PO- Madhupur, Dist-Deoghar-815353 (Jharkhand)  
Contact : 09334315731, 07563048389, e-mail : scecpmdp@gmail.com





# Institute for Environmental Management



## Test Report

|                                   |   |   |   |                    |   |   |   |   |   |                                                                         |   |   |   |   |              |   |   |   |                                         |                                             |  |  |  |  |                      |  |  |  |  |
|-----------------------------------|---|---|---|--------------------|---|---|---|---|---|-------------------------------------------------------------------------|---|---|---|---|--------------|---|---|---|-----------------------------------------|---------------------------------------------|--|--|--|--|----------------------|--|--|--|--|
| ULR No.:                          | T | C | 1 | 1                  | 5 | 1 | 5 | 2 | 4 | 0                                                                       | 0 | 0 | 0 | 0 | 1            | 8 | 9 | 4 |                                         |                                             |  |  |  |  |                      |  |  |  |  |
| Discipline: Chemical              |   |   |   |                    |   |   |   |   |   | Group: Atmospheric Pollution                                            |   |   |   |   |              |   |   |   | Sub-Group: Ambient Air                  |                                             |  |  |  |  |                      |  |  |  |  |
| Report Issue Date: 12-11-2024     |   |   |   |                    |   |   |   |   |   | Test Report No.: RN-241105001A                                          |   |   |   |   |              |   |   |   | Sample Description: Ambient Air         |                                             |  |  |  |  |                      |  |  |  |  |
| Sample ID: 241109AP01001-002-003  |   |   |   |                    |   |   |   |   |   | Challan No./ P.No. Date: 05-11-2024                                     |   |   |   |   |              |   |   |   | Challan No./P.O. No.: 20651723          |                                             |  |  |  |  |                      |  |  |  |  |
| Issued to:                        |   |   |   |                    |   |   |   |   |   | M/s Pavitra Dharti Stone Chips Tham, Chandwara Dist-KODERMA (JHARKHAND) |   |   |   |   |              |   |   |   |                                         |                                             |  |  |  |  |                      |  |  |  |  |
| Type of Industry: Stone Crusher   |   |   |   |                    |   |   |   |   |   | Customer Representative: Raj Kumar Das                                  |   |   |   |   |              |   |   |   | Sampling Date: 08-11-2024 to 09-11-2024 |                                             |  |  |  |  |                      |  |  |  |  |
| Sample Drawn by: IEM Team         |   |   |   |                    |   |   |   |   |   | Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series     |   |   |   |   |              |   |   |   |                                         |                                             |  |  |  |  |                      |  |  |  |  |
| Sampling Location                 |   | A |   | Near Main Entrance |   |   |   |   |   |                                                                         |   |   |   |   |              |   |   |   |                                         | Co-ordinates: 24°22'46.29"N to 85°25'6.62"E |  |  |  |  |                      |  |  |  |  |
|                                   |   | B |   | Near Office        |   |   |   |   |   |                                                                         |   |   |   |   |              |   |   |   |                                         | Co-ordinates: 24°22'46.52"N to 85°25'5.33"E |  |  |  |  |                      |  |  |  |  |
|                                   |   | C |   | Near South Side    |   |   |   |   |   |                                                                         |   |   |   |   |              |   |   |   |                                         | Co-ordinates: 24°22'44.83"N to 85°25'4.85"E |  |  |  |  |                      |  |  |  |  |
| Field Meteorological Information  |   |   |   |                    |   |   |   |   |   | A. Temp. (°C): 26                                                       |   |   |   |   | R.H. (%): 68 |   |   |   |                                         | W.C.: Sunny                                 |  |  |  |  | W.D.: North to South |  |  |  |  |
| Sample Receiving Date: 09-11-2024 |   |   |   |                    |   |   |   |   |   | Testing Started: 09-11-2024                                             |   |   |   |   |              |   |   |   |                                         | Testing Ended: 12-11-2024                   |  |  |  |  |                      |  |  |  |  |

### ---Test Results---

| Sl.No. | Parameters                              | Test Method No. | Unit              | Standard Norms** | Results |    |    |
|--------|-----------------------------------------|-----------------|-------------------|------------------|---------|----|----|
|        |                                         |                 |                   |                  | A       | B  | C  |
| 1.     | Particulate Matter (PM <sub>10</sub> )  | IS 5182 Part 23 | µg/m <sup>3</sup> | 100              | 71      | 67 | 76 |
| 2.     | Particulate Matter (PM <sub>2.5</sub> ) | IS 5182 Part 24 | µg/m <sup>3</sup> | 60               | 34      | 31 | 38 |
| 3.     | Sulphur Dioxide (SO <sub>2</sub> )      | IS 5182 Part-02 | µg/m <sup>3</sup> | 80               | 12      | 10 | 15 |
| 4.     | Nitrogen Dioxide (NO <sub>2</sub> )     | IS 5182 Part-06 | µg/m <sup>3</sup> | 80               | 20      | 17 | 23 |

### ---End of Report---

|                        |                                                                                                                       |
|------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % In all testing area as per IS 196:1966(C). |
| Abbreviation           | MDL: Minimum Detection Limit, BDL: Below Detection Limit                                                              |
| Norms** is Specified   | National Ambient Air Quality Standards (NAAQS), 2009.                                                                 |
| Remark                 | Sample Comply with prescribed specification.                                                                          |

Tested By: Akanksha Sourabh

Sample Drawn By: Aniket Mundu & Team & Team



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                   |                      |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------|--|
| <b>Specific Contractual Notes:-</b><br>1. The laboratory accepts responsibility for content of this report.<br>2. This report shall not be reproduced except in full, without written approval of the MD.<br>3. This report is intended for only guidance and not for legal purpose or for advertisement.<br>4. Any complaint about this report should be communicated in writing within 7 days of its issue.<br>5. Total liability of Institute for Environmental Management will be limited to involved amount only.<br>6. In case of feedback/ complaints, please send an email at <a href="mailto:iem@rediffmail.com">iem@rediffmail.com</a><br>On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization. | Reviewed by       | Authorized Signatory |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | T. Ahmad          |                      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | (Tauqeer Ahmad)   | (D. S. C. Jain)      |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Technical Manager | Director             |  |

Page 1 of 1

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Certified by ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018



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### AMBIENT AIR QUALITY REPORT

Report No: TSC/R/23-24/TR-No-1104

Issue Date: 04.03.2024

|                      |                                                                                                                          |                                                 |                                                 |
|----------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Issue To,            | Viswakarma Stone Chips<br>At - Tham, PO - Dhab Tham, PS - Chandwara, Block - Chandwara, Distt - Koderma<br>Dist-KODERMA. |                                                 |                                                 |
| Work Order no.       | JSPCB Application No: 18320118                                                                                           | JSPCB Application Date: 27-02-2024              |                                                 |
| Type of Industry     | Stone Crusher (Proposed)                                                                                                 |                                                 |                                                 |
| Sample Code          | TSC/PB/EV/23-24/214                                                                                                      |                                                 |                                                 |
| Sampling Period      | 28.02.2024 - 29.02.2024                                                                                                  | Sample Collected By:                            | TSC Team                                        |
| Sampling Protocol    | IS:5182 and CPCB Air Manual Volume-1(NAAQM/36/2012-13)                                                                   |                                                 |                                                 |
| Sampling Location    | Site-1<br>Lat – 24.388892°<br>Long – 85.411609°                                                                          | Site-2<br>Lat – 24.388582°<br>Long – 85.412279° | Site-3<br>Lat – 24.388268°<br>Long – 85.412266° |
| Meteorological Cond. | W.C - Clear                                                                                                              | Avg. Temp.(°C ) – 25°                           | RH (%) - 59                                     |

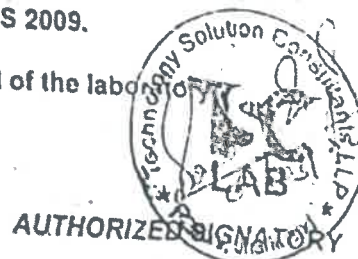
### TEST RESULTS

| Parameters                              | Test Method                    | Units             | Sampling Location |        |        | As per<br>required<br>NAAQS<br>(2009) |
|-----------------------------------------|--------------------------------|-------------------|-------------------|--------|--------|---------------------------------------|
|                                         |                                |                   | Site 1            | Site 2 | Site 3 |                                       |
| Particulate Matter (PM <sub>10</sub> )  | IS:5182 (P-23) 2006            | µg/m <sup>3</sup> | 75.6              | 71.2   | 69.4   | 100                                   |
| Particulate Matter (PM <sub>2.5</sub> ) | USEPA- 40 CFR (PART 50) (50.7) | µg/m <sup>3</sup> | 37.3              | 34.1   | 32.5   | 60                                    |
| Sulphur Dioxide (SO <sub>2</sub> )      | IS:5182 (P-2) 2001             | µg/m <sup>3</sup> | 12.8              | 10.8   | 10.0   | 80                                    |
| Nitrogen Dioxide (NO <sub>x</sub> )     | IS:5182 (P-6) 2006             | µg/m <sup>3</sup> | 21.2              | 20.1   | 18.4   | 80                                    |

### END OF RESULT.

1. Samples Comply with the prescribed specification as per NAAQS 2009.
2. The results relate only to the items tested.
3. The test report shall not be reproduced without written approval of the lab.

*Prabhat*  
LAB ANALYST



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*OK*



# ENVIROCHECK

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## TEST REPORT

FORMAT NO.: ENVJK/FM/37

APPLICATION NO.: 19021610 DTD. 05.04.2024

|                      |                                                                       |                                             |                                   |
|----------------------|-----------------------------------------------------------------------|---------------------------------------------|-----------------------------------|
| Name of the Industry | : Tirupati Balaji Stone Chips                                         | Type of Industry                            | : Stone Crusher                   |
| Address              | : At - Chalnupur, P.O. - Domchanch, P.S. - Domchanch, Dist. - Koderma | Sampling Date                               | : 08.04.2024 - 09.04.2024         |
|                      |                                                                       | Period of Analysis                          | : 09.04.2024 - 09.04.2024         |
|                      |                                                                       | Date of Issue                               | : 11.04.2024                      |
| Sampling Plan        | : ENVJK/SOP/02                                                        | Deviation from the Sampling Method and Plan | : No                              |
| Procedure            |                                                                       | Type of Sample                              | : Ambient Air                     |
| Sample Condition     | : Sealed                                                              | Sample ID No.                               | : ENVJK/211/April/A/III           |
|                      |                                                                       | Report No.                                  | : ENVJK/211/April/TR(A)/III/24-25 |

### GENERAL INFORMATION

Location of Sampling : Near South - West Corner  
Duration of Sampling : 24 hrs. (10:00 a.m. - 10:00 a.m.)

### RESULTS

| PARAMETERS                         | UNIT              | METHOD NO.                                    | RESULTS | LIMIT |
|------------------------------------|-------------------|-----------------------------------------------|---------|-------|
| Concentration of PM <sub>2.5</sub> | µg/m <sup>3</sup> | USEPA 1997a, 40 CFR Part 50, Appendix L: 2006 | 48.50   | 60.0  |
| Concentration of PM <sub>10</sub>  | µg/m <sup>3</sup> | IS 5182 (Part 23): 2006                       | 72.80   | 100.0 |
| Concentration of SO <sub>2</sub>   | µg/m <sup>3</sup> | IS 5182 (Part 2): 2001                        | 6.20    | 80.0  |
| Concentration of NO <sub>2</sub>   | µg/m <sup>3</sup> | IS 5182 (Part 6): 2006                        | 25.0    | 80.0  |

Remarks : Result shows that all parameters are within limit as per JSPCB.  
: Result relates only to the sample tested.

Reviewed By:

  
(Saswata Buriman Roy, Dy. Quality Manager)

Authorised Signatory:

  
(Bapan Das, Dy. Technical Manager)



Laboratory : 63/B, Rastraguru Avenue, Kolkata - 700028 ( 033-25702891/25497490, Fax : 033-25299141  
: MIG, R-3, Housing Colony, Dhanbad, State - Jharkhand, Pin - 826001  
: envirocheck50@gmail.com / Website : www.envirocheck.in

## TEST REPORT

|                                            |                                |
|--------------------------------------------|--------------------------------|
| Test Report No. : SRL/R/DSM/AAQ/MAY/24/127 | Report Issue Date : 28.05.2024 |
| Application No. : 19403869                 | Application Date : 22.05.2024  |

| Customer's Name & Address                                                                                                                                                                       | Sample Details                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M/s Domchanch Stone Mine,<br>(of M/s Jai Maa Chanchalini Stone Works)<br>At.: Plot No. 11015 (P), Khata No. 1134,<br>Mauza: Domchanch, P.O. & P.S.: Domchanch,<br>District: Koderma, Jharkhand. | Type of Sample : Ambient Air<br>Date of Sampling : 24.05.2024 to 25.05.2024<br>Sample Receipt Date : 25.05.2024<br>Analysis Date : 25.05.2024 to 28.05.2024<br>Sample Collected by : SRL Team |

|                                  |                                                 |                            |
|----------------------------------|-------------------------------------------------|----------------------------|
| Weather Condition: Partly Cloudy | Ambient Temperature ( $^{\circ}\text{C}$ ) : 31 | Relative Humidity (%) : 56 |
| Atmospheric Pressure (mmHg): 754 | Wind Speed (km/hr.) : 9.0                       | Wind Direction : SE        |

## TEST RESULTS

| Sl. No.                                                    | Parameters                                          | Unit                     | Results | Standards Value* | Test Method              |
|------------------------------------------------------------|-----------------------------------------------------|--------------------------|---------|------------------|--------------------------|
| 1. Sampling Location: Northern Side of Mine Lease Area     |                                                     |                          |         |                  |                          |
| I.                                                         | Respirable Particulate Matter ( $\text{PM}_{10}$ )  | $\mu\text{g}/\text{m}^3$ | 85.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                        | Respirable Particulate Matter ( $\text{PM}_{2.5}$ ) | $\mu\text{g}/\text{m}^3$ | 47.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                       | Sulphur Dioxide ( $\text{SO}_2$ )                   | $\mu\text{g}/\text{m}^3$ | 06.80   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                        | Nitrogen Dioxide ( $\text{NO}_2$ )                  | $\mu\text{g}/\text{m}^3$ | 20.50   | 80               | IS: 5182 (Part- 6) 2006  |
| 2. Sampling Location: Western Side of Mine Lease Area      |                                                     |                          |         |                  |                          |
| I.                                                         | Respirable Particulate Matter ( $\text{PM}_{10}$ )  | $\mu\text{g}/\text{m}^3$ | 86.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                        | Respirable Particulate Matter ( $\text{PM}_{2.5}$ ) | $\mu\text{g}/\text{m}^3$ | 49.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                       | Sulphur Dioxide ( $\text{SO}_2$ )                   | $\mu\text{g}/\text{m}^3$ | 07.60   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                        | Nitrogen Dioxide ( $\text{NO}_2$ )                  | $\mu\text{g}/\text{m}^3$ | 21.40   | 80               | IS: 5182 (Part- 6) 2006  |
| 3. Sampling Location: South - East Side of Mine Lease Area |                                                     |                          |         |                  |                          |
| I.                                                         | Respirable Particulate Matter ( $\text{PM}_{10}$ )  | $\mu\text{g}/\text{m}^3$ | 89.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                        | Respirable Particulate Matter ( $\text{PM}_{2.5}$ ) | $\mu\text{g}/\text{m}^3$ | 51.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                       | Sulphur Dioxide ( $\text{SO}_2$ )                   | $\mu\text{g}/\text{m}^3$ | 08.20   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                        | Nitrogen Dioxide ( $\text{NO}_2$ )                  | $\mu\text{g}/\text{m}^3$ | 22.00   | 80               | IS: 5182 (Part- 6) 2006  |

Remarks: All measured parameters are within the prescribed limit.  
\*National Ambient Air Quality Standards (NAAQS).

Note:

- The results relate only to the items sampled and tested.
- Test report shall not be reproduced except in full without written approval of the laboratory.



(Dr. Niraj Kumar Singh)  
Authorized Signatory

-- End of the Report --





# Institute for Environmental Management



|               |                                                                                                              |
|---------------|--------------------------------------------------------------------------------------------------------------|
| Accredited by | Jharkhand State Pollution Control Board, JSPCB                                                               |
| Certified by  | ISO 9001:2015 (Quality Management System)<br>ISO 45001:2018 (Occupational Health & Safety Management System) |

|                                                                                                                                    |                                         |                        |                                              |                      |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|------------------------|----------------------------------------------|----------------------|
| Discipline: Chemical                                                                                                               | Group: Atmospheric Pollution            | Sub-Group: Ambient Air |                                              |                      |
| Report Issue Date: 04-01-2024                                                                                                      | Test Report No.: RN-231227001A          |                        |                                              |                      |
| Sample ID: 240102AP01001-002-003                                                                                                   | Sample Description: Ambient Air         |                        |                                              |                      |
| Challan No./P.O. No.: 18134381                                                                                                     | Challan No./ P.No. Date: 27-12-2023     |                        |                                              |                      |
| Issued to:<br>M/s Maa Bhagwati Stone Chips<br>At - Kathara, PO - Marchol, Block - Satgawan,<br>Distt - Koderma, Jharkhand - 825132 |                                         |                        |                                              |                      |
| Type of Industry: Stone Chips                                                                                                      | Customer Representative: UTTAM KUMAR    |                        |                                              |                      |
| Sample Drawn by: IEM Team                                                                                                          | Sampling Date: 01-01-2024 to 02-01-2024 |                        |                                              |                      |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series                                                                |                                         |                        |                                              |                      |
| Sampling Location                                                                                                                  | A                                       | NEAR MAIN ENTRANCE     | Co-ordinates: 24°44'26.67"N to 85°48'11.77"E |                      |
|                                                                                                                                    | B                                       | NEAR NORTH WEST CORNER | Co-ordinates: 24°44'27.42"N to 85°48'11.82"E |                      |
|                                                                                                                                    | C                                       | NEAR NORTH EAST CORNER | Co-ordinates: 24°44'27.18"N to 85°48'12.60"E |                      |
| Field Meteorological Information                                                                                                   | A. Temp. (°C): 20                       | R.H. (%): 60           | W.C.: Partly Sunny                           | W.D.: North to South |
| Sample Receiving Date: 02-01-2024                                                                                                  | Testing Started: 02-01-2024             |                        | Testing Ended: 04-01-2024                    |                      |

## ---Test Results---

| Sl.No. | Parameters                             | Test Method No. | Unit              | Standard Norms** | Results |      |      |
|--------|----------------------------------------|-----------------|-------------------|------------------|---------|------|------|
|        |                                        |                 |                   |                  | A       | B    | C    |
| 1.     | Particulate Matter (PM <sub>10</sub> ) | IS 5182 Part 23 | µg/m <sup>3</sup> | 100              | 78.4    | 67.3 | 72.8 |
| 2.     | Sulphur Dioxide (SO <sub>2</sub> )     | IS 5182 Part-02 | µg/m <sup>3</sup> | 80               | 21.3    | 13.9 | 17.4 |
| 3.     | Nitrogen Dioxide (NO <sub>2</sub> )    | IS 5182 Part-06 | µg/m <sup>3</sup> | 80               | 38.3    | 30.4 | 32.7 |

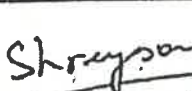
## ---End of Report---

|                        |                                                                                                                       |
|------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation           | MDL: Minimum Detection Limit, BDL: Below Detection Limit                                                              |
| Norms** is Specified   | National Ambient Air Quality Standards (NAAQS), 2009.                                                                 |
| Remark                 | Sample Comply with prescribed specification.                                                                          |

Tested By: Neema Kumari

Sample Drawn By: Rajiv Singh & Team



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                        |                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Specific Contractual Notes:-<br>1. The laboratory accepts responsibility for content of this report.<br>2. This report shall not be reproduced except in full, without written approval of the MD.<br>3. This report is intended for only guidance and not for legal purpose or for advertisement.<br>4. Any complaint about this report should be communicated in writing within 7 days of its issue.<br>5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.<br>6. In case of feedback/ complaints, please send an email at gm.lemeco@gmail.com<br>On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization. | Quality Checked by                                                                                     | Authorized Signatory                                                                                      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <br>(Shreya Sonal) | <br>(Dr. S. C. Jain) |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Dy. Quality Manager                                                                                    | Director                                                                                                  |

Corporate office - A-8, Modi Heights, Opp.-All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834001

Laboratory Site - H.No. - A-13, Saket Vihar, Near Sohrai Bhawan, Harmu Housing Colony,  
Ranchi-834002, Jharkhand, India

Ph - 8407804254, 8407804251. Email - lem2017@rediffmail.com



ISO 9001:2015



# ADITI R&D SERVICES

Testing Laboratory  
NABL ACCREDITED



Plot No.- I-B-17(P), Sindri Industrial Area, P.O. Domgarh, Dist- Dhanbad, Jharkhand 828107  
E-mail : sindriaditi@gmail.com, Mob. : 09471358492, 9431512608, Ph. : 0326-2952377

TC- 5076

## TEST REPORT

|                                                                                                                     |                                                |
|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| ULR No.TC507624000000176F                                                                                           |                                                |
| Test Report No: 109                                                                                                 | Date of Issue : 25/04/2024                     |
| Application No and Date.: 19046123/ 08/04/2024                                                                      | Requisition No. 109   Ref No.- ARDS/24/ENV/176 |
| Customer Name and Address:                                                                                          | Job Order No/ Job Id. ARDS/AAQ/109             |
| M/s PURANANAGAR STONE MINES<br>VILL-PURANANAGAR,<br>PS.-NAWALSAHI,KHATA NO.- 95,<br>PLOT NO.-2089 DISTRICT -KODERMA | Date Of Sampling : 19/04/2024 to 20/04/2024    |
| Sample Details: Ambient Air Quality                                                                                 | Date Of Receipt of Sample 20/04/2024           |
| Test Required PM <sub>10</sub> SO <sub>2</sub> NO <sub>2</sub> PM <sub>2.5</sub>                                    | Date Of Testing : 22/04/2024 – 23/04/2024      |

## TEST RESULT

| Type of Industry        | Status of the plant               |                            |    |                   |       |
|-------------------------|-----------------------------------|----------------------------|----|-------------------|-------|
| STONE BOULDER           | APPLICATION FOR NOC               |                            |    |                   |       |
| Location at 3 station   | A. North East Corner of the Plot. | 24°24'26.4"N 85°47'19.5"E  |    |                   |       |
|                         | B. North West Corner of the Plot. | 24°24'27.3"N 85°47'29.1"E  |    |                   |       |
|                         | C. South West Corner of the Plot. | 24°24'25.3"N 85°47'30.2"E  |    |                   |       |
| Avg. Ambient Temp. (°C) | 36                                | Avg. Relative Humidity (%) | 25 | Weather Condition | Clear |

| Sl. No.                                                                 | Parameters                                                 | Test Method                  | Location at 3 station |       |       |                          |        |
|-------------------------------------------------------------------------|------------------------------------------------------------|------------------------------|-----------------------|-------|-------|--------------------------|--------|
|                                                                         |                                                            |                              | A                     | B     | C     | MU (±) µg/m <sup>3</sup> | Limits |
| 1.                                                                      | Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>  | IS:5182 (P-23) -2006 RA 2022 | 57.45                 | 54.62 | 52.18 | 2.37 @ 86.80             | 100    |
| 2.                                                                      | Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup> | IS:5182 (P-24)-2019          | 33.42                 | 31.70 | 30.36 | 1.86 @ 50.46             | 60     |
| 3.                                                                      | Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>      | IS:51024 (P-2) sec1 2023     | 14.83                 | 16.06 | 14.85 | 3.35 @ 11.58             | 80     |
| 4.                                                                      | Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>     | IS:5182 (P-6) 2006 RA-2022   | 25.12                 | 24.82 | 26.32 | 0.673 @ 22.93            | 80     |
| Remark : All The Parameters are well within the Specified limit of CPCB |                                                            |                              |                       |       |       |                          |        |



(B N Pandey)  
Sr Chemist  
Tested by

### Statements :

- The test report refers only to the particulars item(s) submitted for testing.
- The test results reported in this report are valid at the time of and under the stated condition of measurement.
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**TEST REPORT**

ULR No.TC507624000000382F

Test Report No: 219

Application No and Date.: 20402571/ 30/09/2024

Customer Name and Address:

M/S KRISHNA STONE CHIPS, PLOT NO.- 232(P),  
KHATA NO.17, VILL - CHHOTKI KARONJIYA,  
PO - CHANDWARA, PS - CHANDWARA, BLOCK -  
CHANDWARA, DIST - KODERMA, JHARKHAND

Sample Details: Ambient Air Quality

Test Required PM<sub>10</sub> SO<sub>2</sub> NO<sub>2</sub> PM<sub>2.5</sub>

Date of Issue : 08/10/2024

Requisition No. 219 Ref No.- ARDS/24/ENV/382

Job Order No/ Job Id . ARDS/AAQ/219

Date of Sampling : 04/10/2024 to 05/10/2024

Date of Receipt of Sample 07/10/2024

Date of Testing : 07/10/2024 - 08/10/2024

**TEST RESULT**

Type of Industry

STONE CRUSHER

Status of the plant

CLOSED

Location at 3 station

A. Near Main Entrance.

24°37'47"N 85°45'76"E

B. Near Labour Room.

24°37'46"N 85°45'75"E

C. South - West Corner of the Crusher.

24°37'47"N 85°45'75"E

Avg. Ambient Temp. (°C)

32

Avg. Relative  
Humidity (%)

72

Weather  
Condition

Closed

| Sl. No. | Parameters                                                 | Test Method                  | Location at 3 station |      |      |                  |        |
|---------|------------------------------------------------------------|------------------------------|-----------------------|------|------|------------------|--------|
|         |                                                            |                              | A                     | B    | C    | MU (±)<br>µg/m3  | Limits |
| 1.      | Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>  | IS:5182 (P-23) -2006 RA 2022 | 63.5                  | 62.4 | 70.8 | 2.37 @<br>86.80  | 100    |
| 2       | Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup> | IS:5182 (P-24)-2019          | 38.1                  | 37.4 | 42.4 | 1.86 @<br>50.46  | 60     |
| 3.      | Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>      | IS:5182 (P-2) -2001          | 11.4                  | 11.2 | 12.7 | 3.35 @<br>11.58  | 80     |
| 4.      | Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>     | IS:5182 (P-6) 2006 RA-2022   | 19.0                  | 18.7 | 21.2 | 0.673 @<br>22.93 | 80     |

Remark : All The Parameters are well within the Specified limit of CPCB

(B.N. Pandey)  
Sr. Chemist  
Tested by



Comments :  
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# ADITI R&D SERVICES

Testing Laboratory

NABL ACCREDITED

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E-mail : sindriaditi@gmail.com, Mob. : 09471358492, 9431512608, Ph. : 0326-2952377



TC- 5076

## TEST REPORT

|                                                                                                                     |                                              |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| ULR No.TC507624000000176F                                                                                           |                                              |
| Test Report No: 109                                                                                                 | Date of Issue : 25/04/2024                   |
| Application No and Date.: 19046123/ 08/04/2024                                                                      | Requisition No. 109 Ref No.- ARDS/24/ENV/176 |
| Customer Name and Address:                                                                                          | Job Order No/ Job Id. ARDS/AAQ/109           |
| M/s PURANANAGAR STONE MINES<br>VILL-PURANANAGAR,<br>PS.-NAWALSAHI,KHATA NO.- 95,<br>PLOT NO.-2089 DISTRICT -KODERMA | Date Of Sampling : 19/04/2024 to 20/04/2024  |
| Sample Details: Ambient Air Quality                                                                                 | Date Of Receipt of Sample 20/04/2024         |
| Test Required PM <sub>10</sub> SO <sub>2</sub> NO <sub>2</sub> PM <sub>2.5</sub>                                    | Date Of Testing : 22/04/2024 – 23/04/2024    |

## TEST RESULT

| Type of Industry      | Status of the plant               |                           |
|-----------------------|-----------------------------------|---------------------------|
| STONE BOULDER         | APPLICATION FOR NOC               |                           |
| Location at 3 station | A. North East Corner of the Plot. | 24°24'26.4"N 85°47'19.5"E |
|                       | B. North West Corner of the Plot. | 24°24'27.3"N 85°47'29.1"E |
|                       | C. South West Corner of the Plot. | 24°24'25.3"N 85°47'30.2"E |

|                         |    |                            |    |                   |       |
|-------------------------|----|----------------------------|----|-------------------|-------|
| Avg. Ambient Temp. (°C) | 36 | Avg. Relative Humidity (%) | 25 | Weather Condition | Clear |
|-------------------------|----|----------------------------|----|-------------------|-------|

| Sl. No. | Parameters                                     | Test Method                  | Location at 3 station |       |       |                     |        |
|---------|------------------------------------------------|------------------------------|-----------------------|-------|-------|---------------------|--------|
|         |                                                |                              | A                     | B     | C     | MU (±)<br>µg/m3     | Limits |
| 1.      | Particulate Matter (PM <sub>10</sub> ), µg/m³  | IS:5182 (P-23) -2006 RA 2022 | 57.45                 | 54.62 | 52.18 | 2.37 @<br>86.80     | 100    |
| 2       | Particulate Matter (PM <sub>2.5</sub> ), µg/m³ | IS:5182 (P-24)-2019          | 33.42                 | 31.70 | 30.36 | 1.86 @<br>50.46     | 60     |
| 3.      | Sulphur Dioxide (SO <sub>2</sub> ), µg/m³      | IS:5182 (P-2) sec1 2023      | 14.83                 | 16.06 | 14.85 | 3.35 @<br>11.58     | 80     |
| 4.      | Nitrogen Dioxide (NO <sub>2</sub> ), µg/m³     | IS:5182 (P-8) 2006 RA-2022   | 25.12                 | 24.82 | 26.32 | 0.673<br>@<br>22.93 | 80     |

Remark : All The Parameters are well within the Specified limit of CPCB



(B.N. Pandey)  
Sr Chemist  
Tested by



### Statements:

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# SCIENTIFIC RESEARCH LABORATORY

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Analytical & Environmental Engineering Laboratory

C- 144, Aman Green City, Pundag, Ranchi- 834 004, Jharkhand

Tele No.: 0651- 4057244, Mobile: 94701 30700, E-mail: nrajksingh2003@yahoo.co.in

## TEST REPORT

|                                            |                                |
|--------------------------------------------|--------------------------------|
| Test Report No. : SRL/R/SBE/AAQ/AUG/24/211 | Report Issue Date : 20.08.2024 |
| Application No. : 20004130                 | Application Date : 08.08.2024  |

| Customer's Name & Address                                                                                                                                 | Sample Details                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M/s Kharkhar Stone Deposit,<br>At.: Plot No. 731, 732, 734 Khata No- 130,153, 223,<br>Mauza - Kharkhar, P.S.: Domchanch,<br>District: Koderma, Jharkhand. | Type of Sample : Ambient Air<br>Date of Sampling : 16.08.2024 to 17.08.2024<br>Sample Receipt Date : 17.08.2024<br>Analysis Date : 17.08.2024 to 18.08.2024<br>Sample Collected by : SRL Team |

|                                  |                               |                            |
|----------------------------------|-------------------------------|----------------------------|
| Weather Condition: Cloudy        | Ambient Temperature (°C) : 31 | Relative Humidity (%) : 68 |
| Atmospheric Pressure (mmHg): 752 | Wind Speed (km/hr.) : 7.0     | Wind Direction : ESE       |

## TEST RESULTS

| Sl. No.                                          | Parameters                                         | Unit              | Results | Standards Value* | Test Method              |
|--------------------------------------------------|----------------------------------------------------|-------------------|---------|------------------|--------------------------|
| 1. Sampling Location: Near Main Entry Gate       |                                                    |                   |         |                  |                          |
| I.                                               | Respirable Particulate Matter (PM <sub>10</sub> )  | µg/m <sup>3</sup> | 77.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                              | Respirable Particulate Matter (PM <sub>2.5</sub> ) | µg/m <sup>3</sup> | 45.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                             | Sulphur Dioxide (SO <sub>2</sub> )                 | µg/m <sup>3</sup> | 09.80   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                              | Nitrogen Dioxide (NO <sub>2</sub> )                | µg/m <sup>3</sup> | 22.00   | 80               | IS: 5182 (Part- 6) 2006  |
| 2. Sampling Location: Near Western Boundary      |                                                    |                   |         |                  |                          |
| I.                                               | Respirable Particulate Matter (PM <sub>10</sub> )  | µg/m <sup>3</sup> | 71.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                              | Respirable Particulate Matter (PM <sub>2.5</sub> ) | µg/m <sup>3</sup> | 39.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                             | Sulphur Dioxide (SO <sub>2</sub> )                 | µg/m <sup>3</sup> | 10.60   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                              | Nitrogen Dioxide (NO <sub>2</sub> )                | µg/m <sup>3</sup> | 23.40   | 80               | IS: 5182 (Part- 6) 2006  |
| 3. Sampling Location: Near South – East Boundary |                                                    |                   |         |                  |                          |
| I.                                               | Respirable Particulate Matter (PM <sub>10</sub> )  | µg/m <sup>3</sup> | 75.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                              | Respirable Particulate Matter (PM <sub>2.5</sub> ) | µg/m <sup>3</sup> | 43.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                             | Sulphur Dioxide (SO <sub>2</sub> )                 | µg/m <sup>3</sup> | 09.50   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                              | Nitrogen Dioxide (NO <sub>2</sub> )                | µg/m <sup>3</sup> | 21.60   | 80               | IS: 5182 (Part- 6) 2006  |

Note: Monitored parameters are well within the prescribed limit)

\*National Ambient Air Quality Standards (NAAQS).

Note:

- The results relate only to the items sampled and tested.
- Test report shall not be reproduced except in full without written approval of the laboratory.



Niraj

(Dr. Niraj Kumar Singh)  
Authorized Signatory

-- End of the Report --

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Tele No.: 0651- 4057244, Mobile: 94701 30700, E-mail: nirajksingh2003@yahoo.co.in

efore  
xpansi

## TEST REPORT

|                                            |                                |
|--------------------------------------------|--------------------------------|
| Test Report No. : SRL/R/DSM/AAQ/MAY/24/127 | Report Issue Date : 28.05.2024 |
| Application No. : 19403869                 | Application Date : 22.05.2024  |

| Customer's Name & Address                                                                                                                                                                       | Sample Details                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| M/s Domchanch Stone Mine.<br>(of M/s Jai Maa Chanchalini Stone Works)<br>At.: Plot No. 11015 (P), Khata No. 1134,<br>Mauza: Domchanch, P.O. & P.S.: Domchanch,<br>District: Koderma, Jharkhand. | Type of Sample : Ambient Air                |
|                                                                                                                                                                                                 | Date of Sampling : 24.05.2024 to 25.05.2024 |
|                                                                                                                                                                                                 | Sample Receipt Date : 25.05.2024            |
|                                                                                                                                                                                                 | Analysis Date : 25.05.2024 to 28.05.2024    |
|                                                                                                                                                                                                 | Sample Collected by : SRL Team              |

|                                  |                                                 |                            |
|----------------------------------|-------------------------------------------------|----------------------------|
| Weather Condition: Partly Cloudy | Ambient Temperature ( $^{\circ}\text{C}$ ) : 31 | Relative Humidity (%) : 56 |
| Atmospheric Pressure (mmHg): 754 | Wind Speed (km/hr.) : 9.0                       | Wind Direction : SE        |

## TEST RESULTS

| Sl. No.                                                    | Parameters                                          | Unit                     | Results | Standards Value* | Test Method              |
|------------------------------------------------------------|-----------------------------------------------------|--------------------------|---------|------------------|--------------------------|
| 1. Sampling Location: Northern Side of Mine Lease Area     |                                                     |                          |         |                  |                          |
| I.                                                         | Respirable Particulate Matter ( $\text{PM}_{10}$ )  | $\mu\text{g}/\text{m}^3$ | 85.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                        | Respirable Particulate Matter ( $\text{PM}_{2.5}$ ) | $\mu\text{g}/\text{m}^3$ | 47.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                       | Sulphur Dioxide ( $\text{SO}_2$ )                   | $\mu\text{g}/\text{m}^3$ | 06.80   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                        | Nitrogen Dioxide ( $\text{NO}_2$ )                  | $\mu\text{g}/\text{m}^3$ | 20.50   | 80               | IS: 5182 (Part- 6) 2006  |
| 2. Sampling Location: Western Side of Mine Lease Area      |                                                     |                          |         |                  |                          |
| I.                                                         | Respirable Particulate Matter ( $\text{PM}_{10}$ )  | $\mu\text{g}/\text{m}^3$ | 86.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                        | Respirable Particulate Matter ( $\text{PM}_{2.5}$ ) | $\mu\text{g}/\text{m}^3$ | 49.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                       | Sulphur Dioxide ( $\text{SO}_2$ )                   | $\mu\text{g}/\text{m}^3$ | 07.60   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                        | Nitrogen Dioxide ( $\text{NO}_2$ )                  | $\mu\text{g}/\text{m}^3$ | 21.40   | 80               | IS: 5182 (Part- 6) 2006  |
| 3. Sampling Location: South – East Side of Mine Lease Area |                                                     |                          |         |                  |                          |
| I.                                                         | Respirable Particulate Matter ( $\text{PM}_{10}$ )  | $\mu\text{g}/\text{m}^3$ | 89.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                        | Respirable Particulate Matter ( $\text{PM}_{2.5}$ ) | $\mu\text{g}/\text{m}^3$ | 51.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                       | Sulphur Dioxide ( $\text{SO}_2$ )                   | $\mu\text{g}/\text{m}^3$ | 08.20   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                        | Nitrogen Dioxide ( $\text{NO}_2$ )                  | $\mu\text{g}/\text{m}^3$ | 22.00   | 80               | IS: 5182 (Part- 6) 2006  |

Remarks: All measured parameters are within the prescribed limit.

\*National Ambient Air Quality Standards (NAAQS).

Note:

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- Test report shall not be reproduced except in full without written approval of the laboratory.



(Dr. Niraj Kumar Singh)  
Authorized Signatory

--End of the Report--





## Test Report

|                                                                                                    |                              |                      |   |   |   |   |   |   |   |                                               |                        |                                              |   |                           |   |                |   |  |  |
|----------------------------------------------------------------------------------------------------|------------------------------|----------------------|---|---|---|---|---|---|---|-----------------------------------------------|------------------------|----------------------------------------------|---|---------------------------|---|----------------|---|--|--|
| ULR No.:                                                                                           | T                            | C                    | 1 | 1 | 5 | 1 | 5 | 2 | 4 | 0                                             | 0                      | 0                                            | 0 | 2                         | 2 | 2              | 8 |  |  |
| Discipline: Chemical                                                                               | Group: Atmospheric Pollution |                      |   |   |   |   |   |   |   |                                               | Sub-Group: Ambient Air |                                              |   |                           |   |                |   |  |  |
| Report Issue Date: 02-01-2025                                                                      |                              |                      |   |   |   |   |   |   |   | Test Report No.: RN-241230001A                |                        |                                              |   |                           |   |                |   |  |  |
| Sample ID: 250101AP01001-002-003                                                                   |                              |                      |   |   |   |   |   |   |   | Sample Description: Ambient Air               |                        |                                              |   |                           |   |                |   |  |  |
| Challan No./P.O. No.: 21139339                                                                     |                              |                      |   |   |   |   |   |   |   | Challan No./ P.No. Date: 30-12-2024           |                        |                                              |   |                           |   |                |   |  |  |
| Issued To:                                                                                         |                              |                      |   |   |   |   |   |   |   |                                               |                        |                                              |   |                           |   |                |   |  |  |
| M/S Bhadrakali Stone Chips                                                                         |                              |                      |   |   |   |   |   |   |   |                                               |                        |                                              |   |                           |   |                |   |  |  |
| Vill - ChhotkiKaronjiya, PO - Chandwara, PS - Chandwara, Block - Chandwara Dist-KODERMA(Jharkhand) |                              |                      |   |   |   |   |   |   |   |                                               |                        |                                              |   |                           |   |                |   |  |  |
| Type of Industry: Stone Crusher                                                                    |                              |                      |   |   |   |   |   |   |   | Customer Representative: Sikendra Kumar Yadav |                        |                                              |   |                           |   |                |   |  |  |
| Sample Drawn by: IEM Team                                                                          |                              |                      |   |   |   |   |   |   |   | Sampling Date: 31-12-2024 to 01-01-2025       |                        |                                              |   |                           |   |                |   |  |  |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series                                |                              |                      |   |   |   |   |   |   |   |                                               |                        |                                              |   |                           |   |                |   |  |  |
| Sampling Location                                                                                  | A                            | Near Main Entrance   |   |   |   |   |   |   |   |                                               |                        | Co-ordinates: 24°22'28.99"N to 85°27'27.23"E |   |                           |   |                |   |  |  |
|                                                                                                    | B                            | Near North West Side |   |   |   |   |   |   |   |                                               |                        | Co-ordinates: 24°22'28.85"N to 85°27'25.78"E |   |                           |   |                |   |  |  |
|                                                                                                    | C                            | Near Stock Yard      |   |   |   |   |   |   |   |                                               |                        | Co-ordinates: 24°22'27.32"N to 85°27'26.85"E |   |                           |   |                |   |  |  |
| Field Meteorological Information                                                                   |                              |                      |   |   |   |   |   |   |   | A. Temp. (°C): 17                             |                        | R.H. (%): 47                                 |   | W.C.: Partly Sunny        |   | W.D.: SE to NW |   |  |  |
| Sample Receiving Date: 01-01-2025                                                                  |                              |                      |   |   |   |   |   |   |   | Testing Started: 01-01-2025                   |                        |                                              |   | Testing Ended: 02-01-2025 |   |                |   |  |  |

### ---Test Results---

| Sl.No. | Parameters                              | Test Method No. | Unit              | Standard Norms** | Results |    |    |
|--------|-----------------------------------------|-----------------|-------------------|------------------|---------|----|----|
|        |                                         |                 |                   |                  | A       | B  | C  |
| 1.     | Particulate Matter (PM <sub>10</sub> )  | IS 5182 Part 23 | µg/m <sup>3</sup> | 100              | 71      | 75 | 64 |
| 2.     | Particulate Matter (PM <sub>2.5</sub> ) | IS 5182 Part 24 | µg/m <sup>3</sup> | 60               | 35      | 38 | 31 |
| 3.     | Sulphur Dioxide (SO <sub>2</sub> )      | IS 5182 Part-02 | µg/m <sup>3</sup> | 80               | 13      | 15 | 10 |
| 4.     | Nitrogen Dioxide (NO <sub>2</sub> )     | IS 5182 Part-06 | µg/m <sup>3</sup> | 80               | 26      | 31 | 22 |

### ---End of Report---

|                        |                                                                                                                       |
|------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation           | MDL: Minimum Detection Limit, BDL: Below Detection Limit                                                              |
| Norms** is Specified:  | National Ambient Air Quality Standards (NAAQS), 2009.                                                                 |
| Remark                 | Sample Comply with prescribed specification.                                                                          |

Tested By: Akanksha Sourabh

Sample Drawn By: Aniket Mundu & Team



### Specific Contractual Notes -

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- In case of feedback/ complaints, please send an email at [gm@iemranchi.com](mailto:gm@iemranchi.com)

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report issued by the Director of the Organization

Reviewed by

Authorized Signatory

T Ahmad

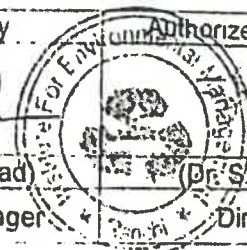
(Taugeer Ahmad)

Technical Manager

Dr. S. C. Jain

(Dr. S. C. Jain)

Director



Corporate office: 204, Health's Opp. All India Radio, State - Ranchi, Jharkhand - 834001

Laboratory Site: H.No. A-13, Saket Vihar, Near Solra Bhawan, Harmu Housing Colony,  
Ranchi-834002, Jharkhand, India

**ADITI R&D SERVICES****Testing Laboratory****NABL ACCREDITED**Plot No.- I-B-17(P), Sindri Industrial Area, P.O. Domgarh, Dist- Dhanbad, Jharkhand 828107  
E-mail : sindriaditi@gmail.com, Mob. : 09471358492, 9431512608, Ph. : 0326-2952377

TC- 5076

**TEST REPORT**

ULR No.TC507624000000382F

Test Report No: 219

Date of Issue : 08/10/2024

Application No and Date.: 20402571/ 30/09/2024

Requisition No. 219 Ref No.- ARDS/24/ENV/382

Customer Name and Address:

Job Order No/ Job Id . ARDS/AAQ/219

M/S KRISHNA STONE CHIPS, PLOT NO.- 232(P),  
KHATA NO.17, VILL - CHHOTKI KARONJIYA,  
PO - CHANDWARA, PS - CHANDWARA, BLOCK -  
CHANDWARA, DIST - KODERMA, JHARKHAND

Date of Sampling : 04/10/2024 to 05/10/2024

Sample Details: Ambient Air Quality

Date of Receipt of Sample 07/10/2024

Test Required PM<sub>10</sub> SO<sub>2</sub> NO<sub>2</sub> PM<sub>2.5</sub>

Date of Testing : 07/10/2024 - 08/10/2024

**TEST RESULT**

| Type of Industry                      | Status of the plant   |
|---------------------------------------|-----------------------|
| STONE CRUSHER                         | CLOSED                |
| Location at 3 station                 |                       |
| A. Near Main Entrance.                | 24°37'47"N 85°45'76"E |
| B. Near Labour Room.                  | 24°37'46"N 85°45'75"E |
| C. South - West Corner of the Crusher | 24°37'47"N 85°45'75"E |
| Avg. Ambient Temp. (°C)               | 32                    |
| Avg. Relative Humidity (%)            | 72                    |
| Weather Condition                     | Closed                |

| Sl. No. | Parameters                                                 | Test Method                  | Location at 3 station |      |      |                          |        |
|---------|------------------------------------------------------------|------------------------------|-----------------------|------|------|--------------------------|--------|
|         |                                                            |                              | A                     | B    | C    | MU (±) µg/m <sup>3</sup> | Limits |
| 1.      | Particulate Matter (PM <sub>10</sub> ), µg/m <sup>3</sup>  | IS:5182 (P-23) -2006 RA 2022 | 63.5                  | 62.4 | 70.8 | 2.37 @ 86.80             | 100    |
| 2.      | Particulate Matter (PM <sub>2.5</sub> ), µg/m <sup>3</sup> | IS:5182 (P-24) -2019         | 38.1                  | 37.4 | 42.4 | 1.86 @ 50.46             | 60     |
| 3.      | Sulphur Dioxide (SO <sub>2</sub> ), µg/m <sup>3</sup>      | IS:5182 (P-2) -2001-2023     | 11.4                  | 11.2 | 12.7 | 3.35 @ 11.58             | 80     |
| 4.      | Nitrogen Dioxide (NO <sub>2</sub> ), µg/m <sup>3</sup>     | IS:5182 (P-6) 2006 RA-2022   | 19.0                  | 18.7 | 21.2 | 0.673 @ 22.93            | 80     |

Remark : All The Parameters are well within the Specified limit of CPCB

(B.N. Pandey)  
Sr. Chemist  
Tested by

Approved

Jharkhand, Ranchi



Technical Manager

Approved by  
(Authorised Signatory)

ements :  
he test report refers only to the particulars item(s) submitted for testing.  
he test results reported in this report are valid at the time of and under the stated condition of measurement.  
his particular test report cannot be reproduced except in full, without prior written permission of Quality / Technical Manager of the laboratory.



## TEST REPORT

|                                           |                                |
|-------------------------------------------|--------------------------------|
| Test Report No. : SRLR/SBE/AAQ/AUG/24/211 | Report Issue Date : 20.08.2024 |
| Application No. : 20004130                | Application Date : 08.08.2024  |

| Customer's Name & Address                                                                                                                                 | Sample Details                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M/s Kharkhar Stone Deposit,<br>At.: Plot No. 731, 732, 734 Khata No- 130,153, 223,<br>Mauza - Kharkhar, P.S.: Domchanch,<br>District: Koderma, Jharkhand. | Type of Sample : Ambient Air<br>Date of Sampling : 16.08.2024 to 17.08.2024<br>Sample Receipt Date : 17.08.2024<br>Analysis Date : 17.08.2024 to 18.08.2024<br>Sample Collected by : SRL Team |

|                                  |                               |                            |
|----------------------------------|-------------------------------|----------------------------|
| Weather Condition: Cloudy        | Ambient Temperature (°C) : 31 | Relative Humidity (%) : 68 |
| Atmospheric Pressure (mmHg): 752 | Wind Speed (km/hr.) : 7.0     | Wind Direction : ESE       |

## TEST RESULTS

| Sl. No.                                                 | Parameters                                         | Unit              | Results | Standards Value* | Test Method              |
|---------------------------------------------------------|----------------------------------------------------|-------------------|---------|------------------|--------------------------|
| <b>1. Sampling Location: Near Main Entry Gate</b>       |                                                    |                   |         |                  |                          |
| I.                                                      | Respirable Particulate Matter (PM <sub>10</sub> )  | µg/m <sup>3</sup> | 77.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                     | Respirable Particulate Matter (PM <sub>2.5</sub> ) | µg/m <sup>3</sup> | 45.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                    | Sulphur Dioxide (SO <sub>2</sub> )                 | µg/m <sup>3</sup> | 09.80   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                     | Nitrogen Dioxide (NO <sub>2</sub> )                | µg/m <sup>3</sup> | 22.00   | 80               | IS: 5182 (Part- 6) 2006  |
| <b>2. Sampling Location: Near Western Boundary</b>      |                                                    |                   |         |                  |                          |
| I.                                                      | Respirable Particulate Matter (PM <sub>10</sub> )  | µg/m <sup>3</sup> | 71.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                     | Respirable Particulate Matter (PM <sub>2.5</sub> ) | µg/m <sup>3</sup> | 39.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                    | Sulphur Dioxide (SO <sub>2</sub> )                 | µg/m <sup>3</sup> | 10.60   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                     | Nitrogen Dioxide (NO <sub>2</sub> )                | µg/m <sup>3</sup> | 23.40   | 80               | IS: 5182 (Part- 6) 2006  |
| <b>3. Sampling Location: Near South - East Boundary</b> |                                                    |                   |         |                  |                          |
| I.                                                      | Respirable Particulate Matter (PM <sub>10</sub> )  | µg/m <sup>3</sup> | 75.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                     | Respirable Particulate Matter (PM <sub>2.5</sub> ) | µg/m <sup>3</sup> | 43.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                    | Sulphur Dioxide (SO <sub>2</sub> )                 | µg/m <sup>3</sup> | 09.60   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                     | Nitrogen Dioxide (NO <sub>2</sub> )                | µg/m <sup>3</sup> | 21.60   | 80               | IS: 5182 (Part- 6) 2006  |

Note: Monitored parameters are well within the prescribed limit)

\*National Ambient Air Quality Standards (NAAQS).

Note:

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(Dr. Niraj Kumar Singh)  
Authorized Signatory

-- End of the Report --

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# SCIENTIFIC RESEARCH LABORATORY

An ISO 9001:2015 (QMS) & OHSMS 45001:2018 Certified Organization  
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Analytical & Environmental Engineering Laboratory  
C- 144, Aman Green City, Pundag, Ranchi- 834 004, Jharkhand  
Tele No.: 0651- 4057244, Mobile: 94701 30700, E-mail: nirajksingh2003@yahoo.co.in

efore  
xpansion

## TEST REPORT

|                                            |                                |
|--------------------------------------------|--------------------------------|
| Test Report No. : SRL/R/DSM/AAQ/MAY/24/127 | Report Issue Date : 28.05.2024 |
| Application No. : 19403869                 | Application Date : 22.05.2024  |

| Customer's Name & Address                                                                                                                                                                       | Sample Details                                                                                                                                                                                |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| M/s Domchanch Stone Mine.<br>(of M/s Jai Maa Chanchalini Stone Works)<br>At.: Plot No. 11015 (P), Khata No. 1134,<br>Mauza: Domchanch, P.O. & P.S.: Domchanch,<br>District: Koderma, Jharkhand. | Type of Sample : Ambient Air<br>Date of Sampling : 24.05.2024 to 25.05.2024<br>Sample Receipt Date : 25.05.2024<br>Analysis Date : 25.05.2024 to 28.05.2024<br>Sample Collected by : SRL Team |

|                                  |                                                 |                            |
|----------------------------------|-------------------------------------------------|----------------------------|
| Weather Condition: Partly Cloudy | Ambient Temperature ( $^{\circ}\text{C}$ ) : 31 | Relative Humidity (%) : 56 |
| Atmospheric Pressure (mmHg): 754 | Wind Speed (km/hr.) : 9.0                       | Wind Direction : SE        |

## TEST RESULTS

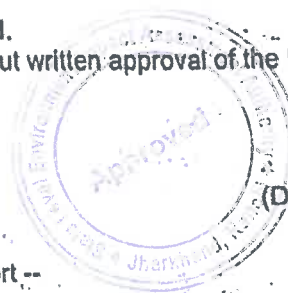
| Sl. No.                                                    | Parameters                                          | Unit                     | Results | Standards Value* | Test Method              |
|------------------------------------------------------------|-----------------------------------------------------|--------------------------|---------|------------------|--------------------------|
| 1. Sampling Location: Northern Side of Mine Lease Area     |                                                     |                          |         |                  |                          |
| I.                                                         | Respirable Particulate Matter ( $\text{PM}_{10}$ )  | $\mu\text{g}/\text{m}^3$ | 85.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                        | Respirable Particulate Matter ( $\text{PM}_{2.5}$ ) | $\mu\text{g}/\text{m}^3$ | 47.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                       | Sulphur Dioxide ( $\text{SO}_2$ )                   | $\mu\text{g}/\text{m}^3$ | 06.80   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                        | Nitrogen Dioxide ( $\text{NO}_2$ )                  | $\mu\text{g}/\text{m}^3$ | 20.50   | 80               | IS: 5182 (Part- 6) 2006  |
| 2. Sampling Location: Western Side of Mine Lease Area      |                                                     |                          |         |                  |                          |
| I.                                                         | Respirable Particulate Matter ( $\text{PM}_{10}$ )  | $\mu\text{g}/\text{m}^3$ | 86.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                        | Respirable Particulate Matter ( $\text{PM}_{2.5}$ ) | $\mu\text{g}/\text{m}^3$ | 49.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                       | Sulphur Dioxide ( $\text{SO}_2$ )                   | $\mu\text{g}/\text{m}^3$ | 07.60   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                        | Nitrogen Dioxide ( $\text{NO}_2$ )                  | $\mu\text{g}/\text{m}^3$ | 21.40   | 80               | IS: 5182 (Part- 6) 2006  |
| 3. Sampling Location: South - East Side of Mine Lease Area |                                                     |                          |         |                  |                          |
| I.                                                         | Respirable Particulate Matter ( $\text{PM}_{10}$ )  | $\mu\text{g}/\text{m}^3$ | 89.00   | 100              | IS: 5182 (Part- 23) 2006 |
| II.                                                        | Respirable Particulate Matter ( $\text{PM}_{2.5}$ ) | $\mu\text{g}/\text{m}^3$ | 51.00   | 60               | IS: 5182 (Part- 24) 2006 |
| III.                                                       | Sulphur Dioxide ( $\text{SO}_2$ )                   | $\mu\text{g}/\text{m}^3$ | 08.20   | 80               | IS: 5182 (Part- 2) 2001  |
| IV.                                                        | Nitrogen Dioxide ( $\text{NO}_2$ )                  | $\mu\text{g}/\text{m}^3$ | 22.00   | 80               | IS: 5182 (Part- 6) 2006  |

Remarks: All measured parameters are within the prescribed limit.

\*National Ambient Air Quality Standards (NAAQS).

Note:

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(Dr. Niraj Kumar Singh)  
Authorized Signatory

--End of the Report--





# EPIC LabTech Private Limited

CIN:-U74999JH2022PTC019685

Accredited by :- NABL vide certificate Number TC- 12887  
Jharkhand State Pollution Control Board  
Certified by :- ISO 9001:2015 and ISO 45001:2018

TC-12887

## Analytical Test Report

|                       |                     |                   |                       |
|-----------------------|---------------------|-------------------|-----------------------|
| Unique Lab Report No. | TC1288724000000068F |                   |                       |
| Report Unique ID      | RP030724060401      |                   |                       |
| Discipline            | Chemical            | Group             | Atmospheric Pollution |
| Issue date/time       |                     | 12.02.2024/ 13:08 |                       |
| Sub Group             |                     | Fugitive Emission |                       |

### Report Issue to

|                                                                    |                |                                    |                   |
|--------------------------------------------------------------------|----------------|------------------------------------|-------------------|
| M/s – GANPATI STONE CHIPS<br>CHAINPUR, DIST- KODERMA,<br>JHARKHAND | Contact Person | Mr. Pankaj Kumar Mehta             |                   |
|                                                                    | Contact Number | 9931284479                         |                   |
|                                                                    | Email Id       | ganpalistonechipskoderma@gmail.com |                   |
| Order Number                                                       | 18363473       | Order Date                         | 29.01.2024/ 17:31 |

### References of Quality Management System (Steps of Traceability Chain)

|                           |               |                       |                      |
|---------------------------|---------------|-----------------------|----------------------|
| Customer Registration No. | EPIC/PCB/0307 | Sample Booking Number | EPIC-C-AP-FE-2406/04 |
| Sample(s) Code            | FE-2406/04    | Sample Receipt (D/T)  | 05.02.2024/ 10:40    |

### Sampling References

|                                 |                                                           |                       |                           |
|---------------------------------|-----------------------------------------------------------|-----------------------|---------------------------|
| Type of Industry                | Stone Crusher                                             | Ref. of Sampling Plan | EPIC/LAB/R/036            |
| Sampling method used            | IS 5182 and CPCB Air Manual Volume – 1 (NAAQM/36/2012-13) |                       |                           |
| Sampling Start (D/T)            | 03.02.2024/ 18:00                                         | Sampling End (D/T)    | 04.02.2024/ 13:30         |
| Mode of Sampling                | Conducted by laboratory                                   | Sample collected by   | Mr. Janardan Kumar & team |
| Description/condition of sample | Receipt sample(s) were fit for analysis                   |                       |                           |

### Environmental Condition during sampling

|                   |       |                  |    |            |    |                |          |
|-------------------|-------|------------------|----|------------|----|----------------|----------|
| Weather condition | Clear | Temperature (°C) | 24 | Humidity % | 63 | Wind direction | 90°-270° |
|-------------------|-------|------------------|----|------------|----|----------------|----------|

### Sampling Location(s) with GPS coordinate(s)

|               |                                                            |                |                                 |
|---------------|------------------------------------------------------------|----------------|---------------------------------|
| S. Location A | Between 3 to 10m from Crusher towards North-West Direction | GPS coordinate | 24° 27' 26.75" / 85° 43' 01.06" |
| S. Location B | Between 3 to 10m from Crusher towards South Direction      | GPS coordinate | 24° 27' 26.90" / 85° 43' 00.15" |
| S. Location C | Between 3 to 10m from Crusher towards East Direction       | GPS coordinate | 24° 27' 27.82" / 85° 43' 00.70" |

### Date(s) of performance of the laboratory activities

|                      |                  |                           |                  |
|----------------------|------------------|---------------------------|------------------|
| Test start date/time | 05.02.2024/11:20 | Test completion date/time | 10.02.2024/12:45 |
|----------------------|------------------|---------------------------|------------------|

| Sl | Tested Parameters                  | Method used         | Unit  | Results |        |        | Limits |
|----|------------------------------------|---------------------|-------|---------|--------|--------|--------|
|    |                                    |                     |       | A       | B      | C      |        |
| 1. | Suspended Particulate Matter (SPM) | IS:5182 (P-04) 2019 | µg/m³ | 563.66  | 499.72 | 552.58 | 600    |
| 2. | Sulphur Dioxide (SO₂)              | IS:5182 (P-02) 2023 | µg/m³ | 08.66   | 09.98  | 12.62  | -      |
| 3. | Nitrogen Dioxide (NO₂)             | IS:5182 (P-06) 2022 | µg/m³ | 22.45   | 20.14  | 27.32  | -      |

|                  |                                                                   |
|------------------|-------------------------------------------------------------------|
| Prescribed Limit | Environmental (Protection) Rules, 1986 Schedule I, Serial No. 11. |
| Remarks          | Unit was operational during sampling.                             |

### Contractual Notes

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- When the results are from external provider are marked as "mark".

Analysed by - A.K. Singh



Checked by  
(B.N. Kumar)  
Technical Head

Verified & Issue by  
(Umesh. Das)  
Laboratory Head  
Authorized Signatory  
EPIC LabTech Pvt. Ltd.  
Ranchi, Jharkhand

Page 1 of 2



# Sabz Care Environmental Consultancy Pvt. Ltd.



Let's start thinking about nature for tomorrow

## TEST REPORT

|                                 |                                                                                                                            |                         |                             |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------|
| Unique Lab Report No. (ULR No.) | TC994824000001003F                                                                                                         |                         |                             |
| Name of Customer                | M/s SPY Stone Chips                                                                                                        | JSPCB Application No.   | 20139297 (Date- 28.08.2024) |
| Address                         | Mouza- Chalnupur P.O. - Domchanch<br>Dist- Koderma Jharkhand                                                               | Particular of the Plant | Stone Crusher               |
| Discipline                      | Chemical                                                                                                                   | Group                   | Atmospheric Pollution       |
| Date of Sampling                | 02.09.2024 to 03.09.2024                                                                                                   | Sample Collected By     | Vivek Kr. Malakar & Team    |
| Sample Receiving Date           | 03.09.2024                                                                                                                 | Sample Condition        | Scaled and Preserved        |
|                                 |                                                                                                                            | Sampling Plan           | SCECPL/SOP/AA/01            |
| Sample Details                  | Ambient Air                                                                                                                |                         |                             |
| Sampling Method                 | IS 5182 and CPCB Air Manual Volume 1 (NAAQM/36/2012-13)                                                                    |                         |                             |
| Type of Sample                  | Suspended Dust and Gases                                                                                                   | Sample Drawn By         | Sabz Care Lab               |
| Sample ID                       | SCECPL/TR/24/225/AA-298/01-03                                                                                              | Plant Status            | Operational                 |
| Period of Analysis              | 03.09.2024 to 04.09.2024                                                                                                   | Report Release Date     | 04.09.2024                  |
| Meteorological Information      | Average Ambient Temperature : 30.0°C Barometric Pressure : 1006 mBar, Relative Humidity : 72%<br>Weather Condition - Clear |                         |                             |

### A. GENERAL INFORMATION

Location of Sampling: Location-1: Near Office (Coordinates- 24°27'44.14"N to 85°42'49.25"E)  
Location-2: North East Side of the Unit (Coordinates- 24°27'43.99"N to 85°42'52.30"E)  
Location-3: South East Side of the Unit (Coordinates- 24°27'42.73"N to 85°42'51.03"E)  
Duration of Sampling: 24 hours

### B. TEST RESULTS

| S.N. | PARAMETERS                              | UNIT              | TEST METHOD       | RESULTS<br>(Location-1) | RESULTS<br>(Location-2) | RESULTS<br>(Location-3) | Requirements<br>as per NAAQS<br>2009 |
|------|-----------------------------------------|-------------------|-------------------|-------------------------|-------------------------|-------------------------|--------------------------------------|
| 1.   | Particulate Matter as PM <sub>2.5</sub> | µg/m <sup>3</sup> | IS 5182 (Part 24) | 46.86                   | 48.71                   | 49.38                   | 60 (µg/m <sup>3</sup> )              |
| 2.   | Particulate Matter as PM <sub>10</sub>  | µg/m <sup>3</sup> | IS 5182 (Part 23) | 81.25                   | 84.55                   | 87.77                   | 100 (µg/m <sup>3</sup> )             |
| 3.   | Sulphur Dioxide as SO <sub>2</sub>      | µg/m <sup>3</sup> | IS 5182 (Part 2)  | 21.81                   | 24.26                   | 25.49                   | 80 (µg/m <sup>3</sup> )              |
| 4.   | Nitrogen Dioxide as NO <sub>2</sub>     | µg/m <sup>3</sup> | IS 5182 (Part 6)  | 27.81                   | 29.15                   | 30.49                   | 80 (µg/m <sup>3</sup> )              |

\*\*\* END OF REPORT \*\*\*

Remarks: The ambient air quality with respect to Particulate matters, SO<sub>2</sub> and NO<sub>2</sub> are within the prescribed National Ambient Air Quality Standard.

- Samples will be destroyed after 15 days from date of issues of the Test Report subject to nature of preservation.
- Samples will be preserved as per the standard method.



Registered Office : Aaril Bhawan, Bawan Bighas, PO- Madhupur, Dist-Deoghar-816353 (Jharkhand)  
Contact : 09334315731, 07563048389, e-mail : scecpmdp@gmail.com



**MSME**  
सूक्ष्म, लघु एवं मध्यम उद्यम  
MICRO, SMALL & MEDIUM ENTERPRISES



**Sabz Care****Environmental Consultancy Pvt. Ltd.**

TC-9948



Let's start thinking about nature for tomorrow

**TEST REPORT**

|                                 |                                                                                                                          |                         |                            |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------|-------------------------|----------------------------|
| Unique Lab Report No. (ULR No.) | TC994824000000490F                                                                                                       |                         |                            |
| Name of Customer                | M/s Ambika Stone Chips                                                                                                   | JSPCB Application No.   | 19185415 (Date-25.04.2024) |
| Address                         | At- Tham, Dhabtham, District-Koderma<br>State-Jharkhand                                                                  | Particular of the Plant | Stone Crusher              |
| Discipline                      | Chemical                                                                                                                 | Group                   | Atmospheric Pollution      |
| Date of Sampling                | 26.04.2024 to 27.04.2024                                                                                                 | Sample Collected by     | Md. W. Ansari & Team       |
| Sample Receiving Date           | 27.04.2024                                                                                                               | Sample Condition        | Sealed and Preserved       |
| Sample Details                  | Ambient Air                                                                                                              | Sampling Plan           | SCECPL/SOP/AA/01           |
| Sampling Method                 | IS 5182 and CPCB Air Manual Volume 1 (NAAQM/36/2012-13)                                                                  |                         |                            |
| Type of Sample                  | Suspended Dust and Gases                                                                                                 | Sample Drawn By         | Sabz Care Lab              |
| Sample ID                       | SCECPL/TR/24/122/AA-158/01-03                                                                                            | Plant Status            | Operational                |
| Period of Analysis              | 27.04.2024 to 29.04.2024                                                                                                 | Report Release Date     | 04.05.2024                 |
| Meteorological Information      | Average Ambient Temperature : 33°C, Barometric Pressure :1015 mBar<br>Relative Humidity : 47%, Weather Condition – Clear |                         |                            |

**A. GENERAL INFORMATION**

Location of Sampling: Location-1: North East Side of the Unit (Coordinates- 24°23'10.26"N to 85°24'39.54"E)  
Location-2: North West Side of the Unit (Coordinates- 24°23'9.52"N to 85°24'38.22"E)  
Location-3: South Side of the Unit (Coordinates- 24°23'8.72"N to 85°24'39.51"E)

Duration of Sampling: 24 hours

**B. TEST RESULTS**

| S.N. | PARAMETERS                              | UNIT              | TEST METHOD       | RESULTS<br>(Location-1) | RESULTS<br>(Location-2) | RESULTS<br>(Location-3) | Requirements<br>as per NAAQS<br>2009 |
|------|-----------------------------------------|-------------------|-------------------|-------------------------|-------------------------|-------------------------|--------------------------------------|
| 1.   | Particulate Matter as PM <sub>2.5</sub> | µg/m <sup>3</sup> | IS 5182 (Part 24) | 48.77                   | 46.41                   | 45.38                   | 60 (µg/m <sup>3</sup> )              |
| 2.   | Particulate Matter as PM <sub>10</sub>  | µg/m <sup>3</sup> | IS 5182 (Part 23) | 82.54                   | 80.61                   | 78.12                   | 100 (µg/m <sup>3</sup> )             |
| 3.   | Sulphur Dioxide as SO <sub>2</sub>      | µg/m <sup>3</sup> | IS 5182(Part 2)   | 26.30                   | 25.52                   | 24.48                   | 80 (µg/m <sup>3</sup> )              |
| 4.   | Nitrogen Dioxide as NO <sub>2</sub>     | µg/m <sup>3</sup> | IS 5182(Part 6)   | 28.37                   | 27.31                   | 26.25                   | 80 (µg/m <sup>3</sup> )              |

\*\*\* END OF REPORT \*\*\*

Remarks: The ambient air quality with respect to Particulate matters, SO<sub>2</sub> and NO<sub>2</sub> are within the prescribed National Ambient Air Quality Standard.

- Samples will be destroyed after 15 days from date of issues of the Test Report subject to nature of preservation. Samples will be preserved as per the standard method.

9



Authorized Signatory

Piyush  
04/05/2024  
Quality Manager  
(Piyush Ranjan)

Registered Office : Aarti Bhawan, Bawan Blghas, PO- Madhupur, Dist-Deoghar-815353 (Jharkhand)  
Contact : 09334315731, 07563048389, e-mail : scecp1mdp@gmail.com



**MSME**  
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MICRO, SMALL & MEDIUM ENTERPRISES



# Institute for Environmental Management



## Test Report

|                                                                                                                  |                              |                      |   |   |   |                             |   |   |                                         |                                              |   |                           |   |   |               |   |   |  |
|------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------|---|---|---|-----------------------------|---|---|-----------------------------------------|----------------------------------------------|---|---------------------------|---|---|---------------|---|---|--|
| ULR No.:                                                                                                         | T                            | C                    | 1 | 1 | 5 | 1                           | 5 | 2 | 4                                       | 0                                            | 0 | 0                         | 0 | 0 | 2             | 9 | 6 |  |
| Discipline: Chemical                                                                                             | Group: Atmospheric Pollution |                      |   |   |   |                             |   |   | Sub-Group: Ambient Air                  |                                              |   |                           |   |   |               |   |   |  |
| Report Issue Date: 19-04-2024                                                                                    |                              |                      |   |   |   |                             |   |   | Test Report No.: RN-240411001A          |                                              |   |                           |   |   |               |   |   |  |
| Sample ID: 240416AP03001-002-003                                                                                 |                              |                      |   |   |   |                             |   |   | Sample Description: Ambient Air         |                                              |   |                           |   |   |               |   |   |  |
| Challan No./P.O. No.: 19070934                                                                                   |                              |                      |   |   |   |                             |   |   | Challan No./P.No. Date: 11-04-2024      |                                              |   |                           |   |   |               |   |   |  |
| Issued to:<br>Om Sai Stone, Dahuatola, PO - Hrodih, PS - Jainagar,<br>Block - Jainagar, Distt - Koderma, KODERMA |                              |                      |   |   |   |                             |   |   |                                         |                                              |   |                           |   |   |               |   |   |  |
| Type of Industry: Stone Mine                                                                                     |                              |                      |   |   |   |                             |   |   | Customer Representative: Dilip Yadav    |                                              |   |                           |   |   |               |   |   |  |
| Sample Drawn by: IEM Team                                                                                        |                              |                      |   |   |   |                             |   |   | Sampling Date: 15-04-2024 to 16-04-2024 |                                              |   |                           |   |   |               |   |   |  |
| Protocol: CPCB Guideline(NAAQMS/36/2012-13) & IS Method 5182 Series                                              |                              |                      |   |   |   |                             |   |   |                                         |                                              |   |                           |   |   |               |   |   |  |
| Sampling Location                                                                                                | A                            | Near South West Side |   |   |   |                             |   |   |                                         | Co-ordinates: 24°21'32.48"N to 85°35'32.99"E |   |                           |   |   |               |   |   |  |
|                                                                                                                  | B                            | Near East Side       |   |   |   |                             |   |   |                                         | Co-ordinates: 24°21'32.51"N to 85°35'39.92"E |   |                           |   |   |               |   |   |  |
|                                                                                                                  | C                            | Near North West Side |   |   |   |                             |   |   |                                         | Co-ordinates: 24°21'36.51"N to 85°35'35.56"E |   |                           |   |   |               |   |   |  |
| Field Meteorological Information                                                                                 |                              |                      |   |   |   | A. Temp. (°C): 33           |   |   | R.H. (%): 45                            |                                              |   | W.C.: Sunny               |   |   | W.D.: NE - SW |   |   |  |
| Sample Receiving Date: 16-04-2024                                                                                |                              |                      |   |   |   | Testing Started: 16-04-2024 |   |   |                                         |                                              |   | Testing Ended: 19-04-2024 |   |   |               |   |   |  |

### ---Test Results---

| Sl.No. | Parameters                             | Test Method No. | Unit              | Standard Norms** | Results |    |    |
|--------|----------------------------------------|-----------------|-------------------|------------------|---------|----|----|
|        |                                        |                 |                   |                  | A       | B  | C  |
| 1.     | Particulate Matter (PM <sub>10</sub> ) | IS 5182 Part 23 | µg/m <sup>3</sup> | 100              | 76      | 68 | 71 |
| 2.     | Sulphur Dioxide (SO <sub>2</sub> )     | IS 5182 Part-02 | µg/m <sup>3</sup> | 80               | 20      | 15 | 18 |
| 3.     | Nitrogen Dioxide (NO <sub>2</sub> )    | IS 5182 Part-06 | µg/m <sup>3</sup> | 80               | 32      | 29 | 30 |

### ---End of Report---

|                        |                                                                                                                       |
|------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Env. Condition of Lab. | Laboratory is maintaining Temperature 27± 2°C and Relative Humidity 65±5 % in all testing area as per IS 196:1966(C). |
| Abbreviation           | MDL: Minimum Detection Limit, BDL: Below Detection Limit                                                              |
| Norms** is Specified   | National Ambient Air Quality Standards (NAAQS), 2009.                                                                 |
| Remark                 | Sample Comply with prescribed specification.                                                                          |

Tested By: Akanksha Sourabh

Sample Drawn By: Aniket Mundu & Team



#### Specific Contractual Notes:-

1. The laboratory accepts responsibility for content of this report
2. This report shall not be reproduced except in full, without written approval of the MD
3. This report is intended for only guidance and not for legal purpose or for advertisement
4. Any complaint about this report should be communicated in writing within 7 days of its issue
5. Total liability of Institute for Environmental Management will be limited to invoiced amount only.
6. In case of feedback/ complaints, please send an email at [gm@iemeco@gmail.com](mailto:gm@iemeco@gmail.com)

On the basis of Quality Checked and Technical data verified by the Authorized signatory, the report is issued by the Director of the Organization

Reviewed by

Authorized Signatory

T. Ahmad

(Tauqeer Ahmad)

Technical Manager

S. C. Jain

Director

Corporate office - A-3, Moh Hegdus, Opp. All India Radio Station, Ratu Road, Ranchi, Jharkhand - 834002

Laboratory Site - ILNo. A-14, Sikar Vihar, Near Sohra Bhawan, Harma Housing, Ranchi-834002, Jharkhand, India

Ph - 8407804253, 8407804254, Email - [iem2012@rediffmail.com](mailto:iem2012@rediffmail.com)



# ANNEXURE- II



✍

# कार्यालय प्रखण्ड विकास पदाधिकारी, सतगावां।

प्रेषक,

82820  
22.4.24

पत्रांक

647

प्रखण्ड विकास पदाधिकारी,  
सतगावां।

सेवा में,

जिला खनन पदाधिकारी,  
कोडरमा।

सतगावां, दिनांक 19/07/2024

विषय - अगामी पांच वर्षों में संचालन किये जाने वाले योजनाओं एवं उसमें उपयोग होने वाले पत्थर खनिज की मात्रा उपलब्ध कराने के संबंध में।

प्रसंग :- आपका पत्रांक 895/एम0, कोडरमा, दिनांक 31.05.2024

महाशय,

उपर्युक्त विषयक एवं प्रसांगिक पत्र के संबंध में कहना है कि सतगावां प्रखण्ड अंतर्गत अगामी पांच वर्षों में संचालन किये जाने वाले योजनाओं एवं उसमें उपयोग होने वाले पत्थर खनिज की मात्रा उपलब्ध से संबंधित प्रतिवेदन विहित प्रपत्र में तैयार कर भेजा जाता है।

| क्र० सं० | पत्थर/ खनिज का नाम | खनिज की मात्रा | अभिवृत्ति |
|----------|--------------------|----------------|-----------|
| 1        | बालु               | 3000M3         |           |
| 2        | गिट्टी             | 2000M3         |           |
| 3        | ईटा                | 500000.00      |           |



प्रखण्ड विकास पदाधिकारी,  
सतगावां।

जनसंगत विकास पदाधिकारी सतगावां।

5-7

**प्रबंधक-सह-कार्यपालक अभियंता का कार्यालय**

**झारखण्ड राज्य भवन निर्माण निगम लिमिटेड,**

**पी० आई० यू०, कोडरमा।**

1<sup>st</sup> Floor, Building Division Office, Near Subhash Chowk, Ranchi-Patna Road, Jhumi Telaiya, Koderma-825409

**Email-id- jsbcllkodpiu@gmail.com Mob No.- 7903935808**

MO  
AM

पत्रांक  
प्रेषक,

161/Kod-2024

कोडरमा, दिनांक 02.07.2024

सेवा में,

प्रबंधक-सह-कार्यपालक अभियंता,  
झारखण्ड राज्य भवन निर्माण निगम लिमिटेड,  
परियोजना कार्यान्वयन इकाई, कोडरमा।

उपायुक्त कार्यालय, कोडरमा

04 JUL 2024

उपायुक्त महोदया,  
कोडरमा।

अधारी/प्रेषण सं० 4842

दिनांक 05/07/24

विषय :

आगामी पाँच वर्षों में संचालन किये जाने वाले योजनाओं एवं उसमें उपयोग होने वाले पत्थर खनिज की मात्रा उपलब्ध कराने के संबंध में।

प्रसंग :

भवदीया का पत्रांक 1118/एम० दिनांक 01.07.2024

महाशया,

उपर्युक्त विषयक एवं प्रसंगिक पत्र के संबंध में कहना है कि इस कार्यालय अंतर्गत आगामी पाँच वर्षों में संचालन किये जाने वाले योजनाओं एवं उसमें उपयोग होने वाले पत्थर खनिज की मात्रा को उपलब्ध नहीं कराया जा सकता है क्योंकि इस कार्यालय के द्वारा झारखण्ड राज्य भवन निर्माण निगम लिमिटेड, राँची के कार्यालय से निविदा पूर्ण किये गये योजनाओं का क्रियान्वयन कराया जाता है अतः आगामी पाँच वर्षों में कोडरमा जिला को कितने एवं किन-किन योजनाओं का निर्माण कराया जाना है यह स्पष्ट नहीं है जब तक कि उन योजनाओं का निविदा प्रक्रिया पूर्ण न हो जाय। भवदीया को ज्ञात कराना है कि वर्तमान में इस कार्यालय अंतर्गत निर्माणाधीन कुल पाँच योजनाओं में से तीन योजनाओं का संरचना कार्य लगभग पूर्ण कर ली गई है तथा दो योजनाओं (चिकित्सा महाविद्यालय एवं BSC Nursing College) को पूर्ण करने में लगभग क्रमशः 48000 MT एवं 16900 MT कुल 64900 MT पत्थर की मात्रा का उपयोग किया जाना है।

भवदीया को सूचनार्थ एवं आवश्यक कार्रवाई हेतु सादर समर्पित।

विश्वासभाजन



प्रबंधक-सह-कार्यपालक अभियंता  
झारखण्ड राज्य भवन निर्माण निगम लिमिटेड,  
परियोजना कार्यान्वयन इकाई, कोडरमा।

7



# ANNEXURE- III



8/





## वन प्रमण्डल पदाधिकारी का कार्यालय, कोडरमा वन प्रमण्डल

पत्रांक : 598

दिनांक : 11-03-2025

सेवा में,

जिला खनन पदाधिकारी,  
कोडरमा।

विषय : कोडरमा जिला के पत्थर खनिज के जिला सर्वेक्षण प्रतिवेदन हेतु Flore and Fauna से संबंधित प्रतिवेदन उपलब्ध कराने के संबंध में।

प्रसंग : आपका कार्यालय पत्रांक 27/एम0, कोडरमा दिनांक 11.01.2025

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र द्वारा माँग की गई Flora and Fauna से संबंधित प्रतिवेदन इस पत्र के साथ संलग्न कर आवश्यक कार्रवाई हेतु भेजा जा रहा है।

अनु0- यथोक्त।

विश्वासभाजन,

*[Signature]*

11/03/25

वन प्रमण्डल पदाधिकारी,  
कोडरमा वन प्रमण्डल।

*[Signature]*

*[Signature]*  
12.03.25  
12/3

*[Signature]*



## Koderma Forest Division

Commonly found flora & fauna in Koderma district as per working plan for Koderma Forest Division.

### Flora

| Sl. No. | Common Name | Botanical Name                    | Family                  |
|---------|-------------|-----------------------------------|-------------------------|
| 1       | Sal         | <i>Shorea robusta</i>             | <i>Dipterocarpaceae</i> |
| 2       | Asan        | <i>Terminalia tomentosa</i>       | <i>Combretaceae</i>     |
| 3       | Piyar       | <i>Buchanania latifolia</i>       | <i>Anacardiaceae</i>    |
| 4       | Mahua       | <i>Madhuca indica</i>             | <i>Sapotaceae</i>       |
| 5       | Sidha       | <i>Lagerstroemia perviflora</i>   | <i>Lythraceae</i>       |
| 6       | Bhelwa      | <i>Semecarpus anacardium</i>      | <i>Anacardiaceae</i>    |
| 7       | Kend        | <i>Diospyros melanoxylon</i>      | <i>Ebenaceae</i>        |
| 8       | Dhautha     | <i>Anogeissus latifolia</i>       | <i>Caombretaceae</i>    |
| 9       | Salai       | <i>Boswellia serrata</i>          | <i>Burseraceae</i>      |
| 10      | Karam       | <i>Adina cordifolia</i>           | <i>Rubiaceae</i>        |
| 11      | Amaltas     | <i>Cassia fistula</i>             | <i>Caesalpiniaceae</i>  |
| 12      | Putri       | <i>Croton oblongifolius</i>       | <i>Euphorbiaceae</i>    |
| 13      | Koraiya     | <i>Holarrhena antidysenterica</i> | <i>Apocynaceae</i>      |
| 14      | Aam         | <i>Mangifera indica</i>           | <i>Anacardiaceae</i>    |
| 15      | Jamun       | <i>Syzygium cumini</i>            | <i>Myrtaceae</i>        |
| 16      | Rohan       | <i>Soymida febrifuga</i>          | <i>Meliaceae</i>        |
| 17      | Palas       | <i>Butea monosperma</i>           | <i>Fabaceae</i>         |
| 18      | Kaj         | <i>Bridelia retusa</i>            | <i>Euphorbiaceae</i>    |
| 19      | Semal       | <i>Bombax ceiba</i>               | <i>Bombacaceae</i>      |
| 20      | Paisar      | <i>Pterocarpus marsupium</i>      | <i>Fabaceae</i>         |
| 21      | Bel         | <i>Aegle marmelos</i>             | <i>Rutaceae</i>         |
| 22      | Bahera      | <i>Terminalia belerica</i>        | <i>Combretaceae</i>     |
| 23      | Raipan      | <i>Ehretia laevis</i>             | <i>Boraginaceae</i>     |
| 24      | Khair       | <i>Acacia catechu</i>             | <i>Mimosaceae</i>       |
| 25      | Bargad      | <i>Ficus bengalensis</i>          | <i>Moraceae</i>         |
| 26      | Pipal       | <i>Ficus religiosa</i>            | <i>Moraceae</i>         |
| 27      | Neem        | <i>Azadirachta indica</i>         | <i>Anacardiaceae</i>    |
| 28      | Chakundi    | <i>Cassia siamea</i>              | <i>Caesalpiniaceae</i>  |
| 29      | Kusum       | <i>Schleichera oleosa</i>         | <i>Sapindaceae</i>      |
| 30      | Dhaw        | <i>Anogeissus pendula</i>         | <i>Combretaceae</i>     |
| 31      | Ghorkaranj  | <i>Ailanthus excelsa</i>          | <i>Simaroubaceae</i>    |
| 32      | Gamhar      | <i>Gmelina arborea</i>            | <i>Verbenaceae</i>      |
| 33      | Anwla       | <i>Amblica officinalis</i>        |                         |
| 34      | Sisam       | <i>Dalbergia sissoo</i>           | <i>Fabaceae</i>         |

### Fauna

| Sl. No. | Common Name          | Scientific Name                |
|---------|----------------------|--------------------------------|
| 1       | Neelgai or Blue Bull | <i>Boselaphus tragocamelus</i> |
| 2       | Wild Boar            | <i>Sus scrofa</i>              |
| 3       | Leopard              | <i>Panthera pardus</i>         |

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|    |                                         |                              |
|----|-----------------------------------------|------------------------------|
| 4  | Wild Cat                                | <i>Felis chaus</i>           |
| 5  | Indian Wild Dog or Dhole                | <i>Cuon alpinus</i>          |
| 6  | Indian Fox or Common Fox                | <i>Vulpes bengalensis</i>    |
| 7  | Indian Jackel                           | <i>Canis aureus</i>          |
| 8  | Indian Grey Mongoose or Common Mongoose | <i>Herpestes edwardsi</i>    |
| 9  | Indian (three striped) Palm Squirrel    | <i>Funambulus palmarum</i>   |
| 10 | Black-naped Hare                        | <i>Lepus nigricollis</i>     |
| 11 | Large Bandicoot Rat                     | <i>Bandicota indica</i>      |
| 12 | Lesser bandicoot Rat                    | <i>Bandicota bengalensis</i> |
| 13 | Common Yellow Bat                       | <i>Scotophilous heathi</i>   |
| 14 | Painted Bat                             | <i>Kerivoula picta</i>       |
| 15 | Sambar                                  | <i>Rusa unicolor</i>         |
| 16 | Barking Deer                            | <i>Muntiacus muntjak</i>     |

**Birds**

| Sl. No. | Common Name                             | Scientific Name                  |
|---------|-----------------------------------------|----------------------------------|
| 1       | Babbler, Common                         | <i>Turdoides caudatus</i>        |
| 2       | Barbet, Crimson-breasted or Coppersmith | <i>Megalaima haemacephala</i>    |
| 3       | Birds, Black                            | <i>Turdus merula</i>             |
| 4       | Birds, Tailor                           | <i>Orthotomus sutorius</i>       |
| 5       | Bittern, Chestnut                       | <i>Ixobrychus cinnamomeus</i>    |
| 6       | Bulbul, Red-vented                      | <i>Pycnonotus cafer</i>          |
| 7       | Crow, House                             | <i>Corvus splendens</i>          |
| 8       | Crow, Jungle                            | <i>Corvus macrorhynchos</i>      |
| 9       | Curlew                                  | <i>Numenius arquate</i>          |
| 10      | Dove, Little Brown                      | <i>Streptopelia senegalensis</i> |
| 11      | Duck, Pintail                           | <i>Anas acuta</i>                |
| 12      | Eagle, Crested Hawk                     | <i>Spizaetus cirrhatus</i>       |
| 13      | Eagle, Crested Serpent                  | <i>Spilornis cheela</i>          |
| 14      | Eagle, Short-toed                       | <i>Circaetus gallicus</i>        |
| 15      | Eagle, Tawny                            | <i>Aquila rapax</i>              |
| 16      | Fowl, Red Jungle                        | <i>Gallus gallus</i>             |
| 17      | Heron, Grey                             | <i>Ardea cinerea</i>             |
| 18      | Hoopoe                                  | <i>Upupa epops</i>               |
| 19      | Hornbill, Common Grey                   | <i>Tockus birostris</i>          |
| 20      | Peacock                                 | <i>Pava cristatus</i>            |
| 21      | Ibis, Black                             | <i>Pseudibis papillosa</i>       |
| 22      | Kingfisher, White breasted              | <i>Halcyon smyenensis</i>        |
| 23      | Kite, Brahminy                          | <i>Haliastur indus</i>           |
| 24      | Koel                                    | <i>Eudynamys scolopacea</i>      |
| 25      | Lapwing, Redwattled                     | <i>Vanellus indicus</i>          |
| 26      | Lapwing, Yellow-wattled                 | <i>Vanellus malabaricus</i>      |
| 27      | Lark, Red-winged                        | <i>Mirafra erythroptera</i>      |
| 28      | Lark, Rufous-tailed Finch               | <i>Ammomanes phoenicurus</i>     |
| 29      | Lorikeet                                | <i>Loriculus vernalis</i>        |

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|    |                                       |                                   |
|----|---------------------------------------|-----------------------------------|
| 30 | Minivet, Scarlet                      | <i>Pericrocotus flammeus</i>      |
| 31 | Munia, Black-headed                   | <i>Lonchura malacca</i>           |
| 32 | Munia, green                          | <i>Estrilda formosa</i>           |
| 33 | Munia, Red or waxbill                 | <i>Estrilda amandava</i>          |
| 34 | Munia, Spotted                        | <i>Lonchura punctulata</i>        |
| 35 | Munia, White-backed                   | <i>Lonchura striata</i>           |
| 36 | Munia, White-throated                 | <i>Lonchura malabarica</i>        |
| 37 | Myna, bank                            | <i>Acridotheres ginginianus</i>   |
| 38 | Myna, Grey-headed                     | <i>sturnus malabarica</i>         |
| 39 | Myna, Indian                          | <i>Acridotheres tristis</i>       |
| 40 | Myna, Jungle                          | <i>Acridotheres Fuscus</i>        |
| 41 | Myna, Pied                            | <i>Sturnus contra</i>             |
| 42 | Myna, Brahminy or Black-Headed        | <i>Sturnus pagodarum</i>          |
| 43 | Nightjar, Common Indian               | <i>Caprimulgus asiaticus</i>      |
| 44 | Nuthatch, Chestnut-bellied            | <i>Sitta castanea</i>             |
| 45 | Oriole, Black-headed                  | <i>Oriolus xanthornus</i>         |
| 46 | Oriole, Golden                        | <i>Oriolus oriolus</i>            |
| 47 | Owl, Barnor Screech                   | <i>Tyto alba</i>                  |
| 48 | Owl, Brown Fish                       | <i>Bubo zeylonensis</i>           |
| 49 | Parakeet, Alexandrine or Large Indian | <i>Psittacula eupatria</i>        |
| 50 | Parakeet, Blossom-headed              | <i>Psittacula cyanocephala</i>    |
| 51 | Pigeon, Common                        | <i>Treron phoenicoptera</i>       |
| 52 | Pipit, Indian                         | <i>Anthus novaeseelandiae</i>     |
| 53 | Pitta, Indian                         | <i>Pitta brachyura</i>            |
| 54 | Plover, Little Ringed                 | <i>Charadrius dubius</i>          |
| 55 | Redshank                              | <i>Tringa totanus</i>             |
| 56 | Robin, Indian                         | <i>Saxicoloides fulicata</i>      |
| 57 | Robin, Magpie                         | <i>Copsychus saularis</i>         |
| 58 | Roller or Blue Jay                    | <i>Coracias benghalensis</i>      |
| 59 | Sandgrouse, Common                    | <i>Pterocles exustus</i>          |
| 60 | Sandgrouse, Painted                   | <i>Pterocles indicus</i>          |
| 61 | Shrike, Large Cuckoo                  | <i>Coracina novaehollandiae</i>   |
| 62 | Shrike, Rufous backed                 | <i>Lanius schach</i>              |
| 63 | Skylark, Indian Small                 | <i>Alauda guagula</i>             |
| 64 | Sparrow, House                        | <i>Passer domesticus</i>          |
| 65 | Sparrow, Yellow Throated              | <i>Petronia xanthocollis</i>      |
| 66 | Spurfowl, Red                         | <i>Galloperdix spadicea</i>       |
| 67 | Stilt, Blackwinged                    | <i>Himantopus himantopus</i>      |
| 68 | Stint, little                         | <i>Calidris minutus</i>           |
| 69 | Stork, white                          | <i>Ciconia ciconia</i>            |
| 70 | Stork, white-necked                   | <i>Ciconia episcopus</i>          |
| 71 | Stork, black-necked                   | <i>Ephippiorhynchus asiaticus</i> |
| 72 | Sunbird, Purple                       | <i>Nectarinia asiatica</i>        |
| 73 | Sunbird, Purple rumped                | <i>Nectarinia zeylonioca</i>      |
| 74 | Swallow, Redrumped or straited        | <i>Hirundo</i>                    |

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|    |                                               |                                  |
|----|-----------------------------------------------|----------------------------------|
| 75 | Swallow, Common                               | <i>Hirundo rustica</i>           |
| 76 | Swallow, Wire-tailed                          | <i>Hirundo smithii</i>           |
| 77 | Swift, Crested Tree                           | <i>Hemiprocne longipennis</i>    |
| 78 | Swift, House                                  | <i>Apus affinis</i>              |
| 79 | Swift, Palm                                   | <i>Cypsiurus parvus</i>          |
| 80 | Teal, Common                                  | <i>Anas crecca</i>               |
| 81 | Tern, Indian Whiskered                        | <i>Chlidonias hybrida</i>        |
| 82 | Tern, River                                   | <i>Sterna aurantia</i>           |
| 83 | Tit, Grey                                     | <i>Parus major</i>               |
| 84 | Vulture, White Scavenger or pharaoh's chicken | <i>Neophron percnopterus</i>     |
| 85 | Vulture, White-backed or Bengal               | <i>Gyps bengalensis</i>          |
| 86 | Wagtail, Grey                                 | <i>Motacilla caspica</i>         |
| 87 | Wagtail, Large Pied                           | <i>Motacilla maderaspatensis</i> |
| 88 | Wagtail, White                                | <i>Motacilla alba</i>            |
| 89 | Wagtail, Yellow                               | <i>Motacilla flava</i>           |
| 90 | Wagtail, Yellow-headed                        | <i>Motacilla cytreola</i>        |
| 91 | Warbler, ashy Wren                            | <i>Prinia socialis</i>           |
| 92 | Warbler, Indian Wren                          | <i>Prinia subflava</i>           |
| 93 | Warbler, streaked Fantail                     | <i>Cisticola juncidis</i>        |
| 94 | Waterhen, White-breasted                      | <i>Amaurornis phoenicurus</i>    |
| 95 | Weaver Bird, Baya                             | <i>Ploceus philippinus</i>       |
| 96 | Weaver Bird, Black-breasted                   | <i>Ploceus benghalensis</i>      |

#### Reptiles

| Sl. No. | Common Name             | Scientific Name             |
|---------|-------------------------|-----------------------------|
| 1       | Monitor Lizard          | <i>Varanus monitor</i>      |
| 2       | Chameleon               | <i>Chamelion calcarata</i>  |
| 3       | King Cobra              | <i>Ophiophagus hannah</i>   |
| 4       | Cobra                   | <i>Naja naja</i>            |
| 5       | Python                  | <i>Python molurus</i>       |
| 6       | Viper                   | <i>Vipera ruselli</i>       |
| 7       | Krait                   | <i>Bangarus caeruleus</i>   |
| 8       | Rat Snake               | <i>Ptyas mucosus</i>        |
| 9       | Common Blind Snake      | <i>Typhlops braminus</i>    |
| 10      | Common Green Whip-snake | <i>Dryophis nasutus</i>     |
| 11      | Checkered Keel back     | <i>Natrix piscator</i>      |
| 12      | Water Snake             | <i>Enhydris enhydris</i>    |
| 13      | Tree Snake              | <i>Dendrophis species</i>   |
| 14      | Wolf Snake              | <i>Oligodon venustus</i>    |
| 15      | Tortoises               | <i>Testudo travancorica</i> |

Such impacts on environmental attributes, in turn have impacts on flora and fauna study area. In order that such impacts are minimal, appropriate mitigation measures are to be taken. A brief on such likely impacts are described below :

1. Crushers and stone mines should not be operated in a clustered approach. It increases the particulate matter pollution and has adverse effect on near by Forest and Wildlife.

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Mining and Crushers are heavy noise polluting industries. So their operation should not be permitted during night hours to avoid adverse effect on wildlife regarding their sleep cycle, migratory pattern and nesting behaviour.

3. Blasting should be avoided if permitted it should be restricted to day time to avoid adverse effect on wildlife.



*SL*  
*11/03/25*  
Divisional Forest Officer,  
Koderma Forest Division.

*2*

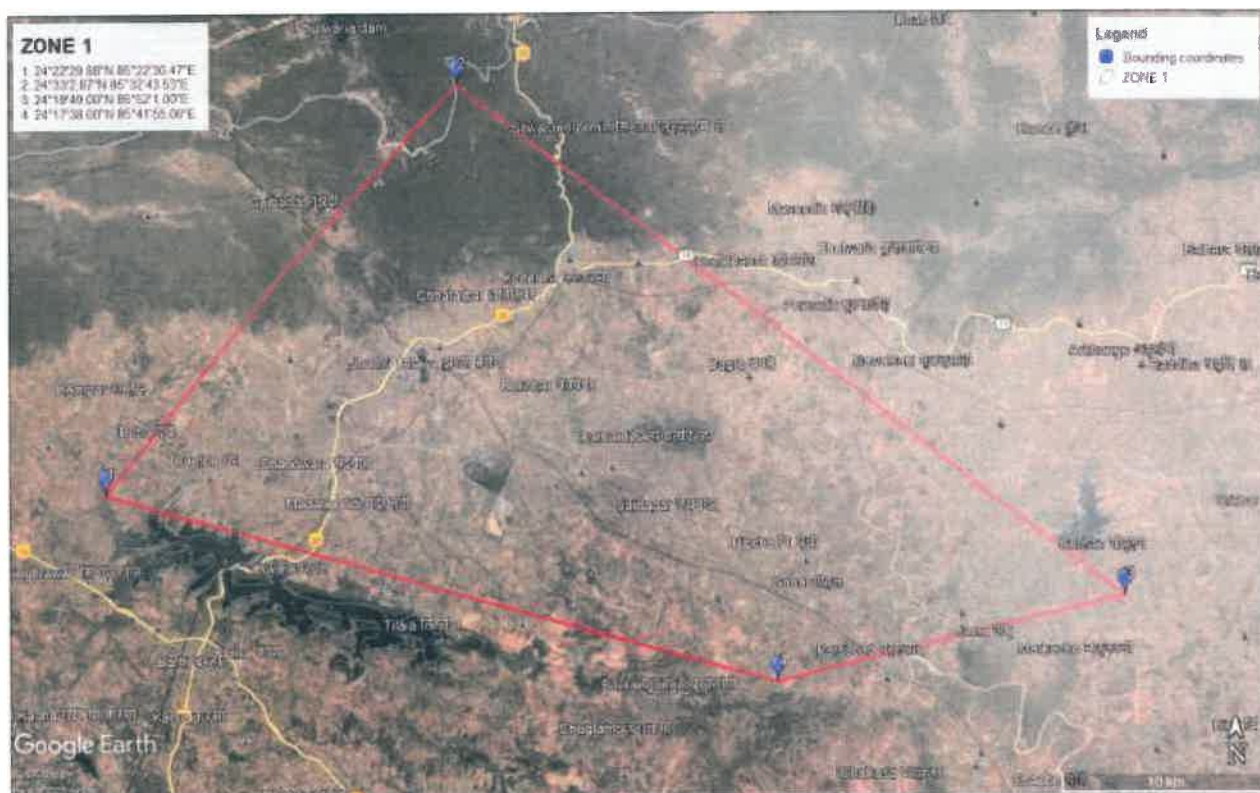
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# ANNEXURE- IV



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## POTENTIAL ZONE 1



### **Bouding coordinates:**

1. 24°22'29.88"N, 85°22'30.47"E
2. 24°33'2.87"N, 85°32'43.53"E
3. 24°19'49.00"N, 85°52'1.00"E
4. 24°17'38.00"N, 85°41'55.00"E

### **List of villages in potential zone 1**

| Sl.NO | District Name | Block Name | Village Name (In English) |
|-------|---------------|------------|---------------------------|
| 1     | Koderma       | Koderma    | Bekobar (CT)              |
| 2     | Koderma       | Koderma    | Bhandarwa                 |
| 3     | Koderma       | Koderma    | Chandedih                 |
| 4     | Koderma       | Koderma    | Pipradih                  |
| 5     | Koderma       | Koderma    | Sangramdih                |
| 6     | Koderma       | Koderma    | Bekobar (CT)              |

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|    |         |         |                     |
|----|---------|---------|---------------------|
| 7  | Koderma | Koderma | Charadih            |
| 8  | Koderma | Koderma | Chutiyaro           |
| 9  | Koderma | Koderma | Gadedih             |
| 10 | Koderma | Koderma | Kariyabar           |
| 11 | Koderma | Koderma | Puto                |
| 12 | Koderma | Koderma | Sujanpur            |
| 13 | Koderma | Koderma | Chechai             |
| 14 | Koderma | Koderma | Chhatarbar          |
| 15 | Koderma | Koderma | Chilhitand          |
| 16 | Koderma | Koderma | Dobrajpur           |
| 17 | Koderma | Koderma | Jungle Sarkar       |
| 18 | Koderma | Koderma | Mahuatand           |
| 19 | Koderma | Koderma | Renganiatand        |
| 20 | Koderma | Koderma | Simratari           |
| 21 | Koderma | Koderma | Belgarha            |
| 22 | Koderma | Koderma | Dumardiha           |
| 23 | Koderma | Koderma | Kharkharo           |
| 24 | Koderma | Koderma | Sondedih            |
| 25 | Koderma | Koderma | Chitarpur           |
| 26 | Koderma | Koderma | Gendwadih Bisunpure |
| 27 | Koderma | Koderma | Inderwa             |
| 28 | Koderma | Koderma | Jharitand           |
| 29 | Koderma | Koderma | Malkoko             |
| 30 | Koderma | Koderma | Nawadih             |
| 31 | Koderma | Koderma | Salaidih            |
| 32 | Koderma | Koderma | Barhoria            |
| 33 | Koderma | Koderma | Belatand            |
| 34 | Koderma | Koderma | Bishunpur           |
| 35 | Koderma | Koderma | Dhodharpania        |
| 36 | Koderma | Koderma | Hathuwadharan       |
| 37 | Koderma | Koderma | Karmatari           |
| 38 | Koderma | Koderma | Pichhli             |
| 39 | Koderma | Koderma | Sapha               |
| 40 | Koderma | Koderma | Doiadih             |
| 41 | Koderma | Koderma | Jhumri              |
| 42 | Koderma | Koderma | Kanungobigha        |
| 43 | Koderma | Koderma | Karma (CT)          |
| 44 | Koderma | Koderma | Lalmandigthu        |
| 45 | Koderma | Koderma | Karma (CT)          |
| 46 | Koderma | Koderma | Goriato             |
| 47 | Koderma | Koderma | Dhebuadih           |
| 48 | Koderma | Koderma | Golwadhab           |
| 49 | Koderma | Koderma | Karipahri           |
| 50 | Koderma | Koderma | Kharkotta           |

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|    |         |          |                      |
|----|---------|----------|----------------------|
| 51 | Koderma | Koderma  | Bajladih             |
| 52 | Koderma | Koderma  | Birjamu              |
| 53 | Koderma | Koderma  | Buchitand(Raghwadih) |
| 54 | Koderma | Koderma  | Kolgarma             |
| 55 | Koderma | Koderma  | Phulwariya           |
| 56 | Koderma | Koderma  | Anantdih             |
| 57 | Koderma | Koderma  | Birinda              |
| 58 | Koderma | Koderma  | Chaturdih            |
| 59 | Koderma | Koderma  | Dewanidhab           |
| 60 | Koderma | Koderma  | Garaidih             |
| 61 | Koderma | Koderma  | Garhai               |
| 62 | Koderma | Koderma  | Lariyadih            |
| 63 | Koderma | Koderma  | Naitand              |
| 64 | Koderma | Koderma  | Baddiha              |
| 65 | Koderma | Koderma  | Bansdharwa           |
| 66 | Koderma | Koderma  | Barlotand            |
| 67 | Koderma | Koderma  | Kundai               |
| 68 | Koderma | Koderma  | Lokai                |
| 69 | Koderma | Koderma  | Maliyai              |
| 70 | Koderma | Koderma  | Tintara              |
| 71 | Koderma | Koderma  | Karharia             |
| 72 | Koderma | Koderma  | Kakuriathamai        |
| 73 | Koderma | Koderma  | Khairidih            |
| 74 | Koderma | Koderma  | Pandedih             |
| 75 | Koderma | Koderma  | Ratithmai            |
| 76 | Koderma | Koderma  | Singhpur             |
| 77 | Koderma | Koderma  | Baheradih            |
| 78 | Koderma | Koderma  | Kamaidih             |
| 79 | Koderma | Koderma  | Pathaldiha           |
| 80 | Koderma | Koderma  | Salaia               |
| 81 | Koderma | Koderma  | Chandrodi            |
| 82 | Koderma | Koderma  | Lochanpur            |
| 83 | Koderma | Koderma  | Mahthadih            |
| 84 | Koderma | Koderma  | Nauadih              |
| 85 | Koderma | Koderma  | Purnanagar           |
| 86 | Koderma | Koderma  | Shahpur              |
| 87 | Koderma | Koderma  | Sijua                |
| 88 | Koderma | Koderma  | Sitwa Junrormin      |
| 89 | Koderma | Jainagar | Alho                 |
| 90 | Koderma | Jainagar | Amjo                 |
| 91 | Koderma | Jainagar | Badki Ledhiya        |
| 92 | Koderma | Jainagar | Beko                 |
| 93 | Koderma | Jainagar | Birwatand            |
| 94 | Koderma | Jainagar | Chhotki Ledhiya      |

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|     |         |          |             |
|-----|---------|----------|-------------|
| 95  | Koderma | Jainagar | Nawadih     |
| 96  | Koderma | Jainagar | Pandiyadih  |
| 97  | Koderma | Jainagar | Tudmi       |
| 98  | Koderma | Jainagar | Biharo      |
| 99  | Koderma | Jainagar | Chandarpur  |
| 100 | Koderma | Jainagar | Chehal      |
| 101 | Koderma | Jainagar | Dhusai      |
| 102 | Koderma | Jainagar | Dumri       |
| 103 | Koderma | Jainagar | Papramo     |
| 104 | Koderma | Jainagar | Udalo       |
| 105 | Koderma | Jainagar | Baniadih    |
| 106 | Koderma | Jainagar | Dandadih    |
| 107 | Koderma | Jainagar | Fakaredih   |
| 108 | Koderma | Jainagar | Jhalpo      |
| 109 | Koderma | Jainagar | Kanjhiyadih |
| 110 | Koderma | Jainagar | Lohadanda   |
| 111 | Koderma | Jainagar | Manjhawan   |
| 112 | Koderma | Jainagar | Modidih     |
| 113 | Koderma | Jainagar | Salaiya     |
| 114 | Koderma | Jainagar | Gharaunja   |
| 115 | Koderma | Jainagar | Ghurmunda   |
| 116 | Koderma | Jainagar | Mahuagarha  |
| 117 | Koderma | Jainagar | Musauwa     |
| 118 | Koderma | Jainagar | Bhuwaldih   |
| 119 | Koderma | Jainagar | Gohal       |
| 120 | Koderma | Jainagar | Makatpur    |
| 121 | Koderma | Jainagar | Nandodih    |
| 122 | Koderma | Jainagar | Gangamo     |
| 123 | Koderma | Jainagar | Hirodih     |
| 124 | Koderma | Jainagar | Koshmadih   |
| 125 | Koderma | Jainagar | Maheshmarai |
| 126 | Koderma | Jainagar | Rebhanadih  |
| 127 | Koderma | Jainagar | Simratand   |
| 128 | Koderma | Jainagar | Tetariyadih |
| 129 | Koderma | Jainagar | Belkatri    |
| 130 | Koderma | Jainagar | Jainagar    |
| 131 | Koderma | Jainagar | Bhagandih   |
| 132 | Koderma | Jainagar | Gopaldih    |
| 133 | Koderma | Jainagar | Irgobad     |
| 134 | Koderma | Jainagar | Jainagar    |
| 135 | Koderma | Jainagar | Pahridih    |
| 136 | Koderma | Jainagar | Santh       |
| 137 | Koderma | Jainagar | Bhinkudih   |
| 138 | Koderma | Jainagar | Gamharbad   |
| 139 | Koderma | Jainagar | Godakhar    |

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|     |         |          |             |
|-----|---------|----------|-------------|
| 140 | Koderma | Jainagar | Kakarcholi  |
| 141 | Koderma | Jainagar | Mahuatand   |
| 142 | Koderma | Jainagar | Paharpur    |
| 143 | Koderma | Jainagar | Tarwan      |
| 144 | Koderma | Jainagar | Banjhedih   |
| 145 | Koderma | Jainagar | Dumardiha   |
| 146 | Koderma | Jainagar | Kandrapdih  |
| 147 | Koderma | Jainagar | Khedobar    |
| 148 | Koderma | Jainagar | Koshmadih.  |
| 149 | Koderma | Jainagar | Rajaidih    |
| 150 | Koderma | Jainagar | Singardih   |
| 151 | Koderma | Jainagar | Sonudih     |
| 152 | Koderma | Jainagar | Baradih     |
| 153 | Koderma | Jainagar | Dahuatola   |
| 154 | Koderma | Jainagar | Ghanghari   |
| 155 | Koderma | Jainagar | Kariyawan   |
| 156 | Koderma | Jainagar | Kokahradhab |
| 157 | Koderma | Jainagar | Kushahan    |
| 158 | Koderma | Jainagar | Sugasankh   |
| 159 | Koderma | Jainagar | Katahadih   |
| 160 | Koderma | Jainagar | Kheskari    |
| 161 | Koderma | Jainagar | Sahebadih   |
| 162 | Koderma | Jainagar | Jhalakdih   |
| 163 | Koderma | Jainagar | Katia       |
| 164 | Koderma | Jainagar | Alagdiha    |
| 165 | Koderma | Jainagar | Berogain    |
| 166 | Koderma | Jainagar | Gariai      |
| 167 | Koderma | Jainagar | Khariyodih  |
| 168 | Koderma | Jainagar | Kharpoka    |
| 169 | Koderma | Jainagar | Kurumdiha   |
| 170 | Koderma | Jainagar | Pispiro     |
| 171 | Koderma | Jainagar | Yadudih     |
| 172 | Koderma | Jainagar | Devitand    |
| 173 | Koderma | Jainagar | Khuha       |
| 174 | Koderma | Jainagar | Mesaundha   |
| 175 | Koderma | Jainagar | Naitand     |
| 176 | Koderma | Jainagar | Pathalkudwa |
| 177 | Koderma | Jainagar | Raghuniadih |
| 178 | Koderma | Jainagar | Daldalia    |
| 179 | Koderma | Jainagar | Ghaghdih    |
| 180 | Koderma | Jainagar | Khagradih   |
| 181 | Koderma | Jainagar | Pipcho      |
| 182 | Koderma | Jainagar | Titahia     |
| 183 | Koderma | Jainagar | Arwatand    |
| 184 | Koderma | Jainagar | Baghmara    |

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|     |         |           |                 |
|-----|---------|-----------|-----------------|
| 185 | Koderma | Jainagar  | Chadra Pipradih |
| 186 | Koderma | Jainagar  | Gudguddi        |
| 187 | Koderma | Jainagar  | Madhwatand      |
| 188 | Koderma | Jainagar  | Patishale       |
| 189 | Koderma | Jainagar  | Rupaidih        |
| 190 | Koderma | Jainagar  | Baddiha         |
| 191 | Koderma | Jainagar  | Jariai          |
| 192 | Koderma | Jainagar  | Kachaknal       |
| 193 | Koderma | Jainagar  | Karnosaran      |
| 194 | Koderma | Jainagar  | Katharatand     |
| 195 | Koderma | Jainagar  | Kuskur          |
| 196 | Koderma | Jainagar  | Latbedhwa       |
| 197 | Koderma | Jainagar  | Nawada          |
| 198 | Koderma | Jainagar  | Sarmatand       |
| 199 | Koderma | Jainagar  | Satdiha         |
| 200 | Koderma | Jainagar  | Bigha           |
| 201 | Koderma | Jainagar  | Bisodih         |
| 202 | Koderma | Jainagar  | Chak            |
| 203 | Koderma | Jainagar  | Chutiaro        |
| 204 | Koderma | Jainagar  | Dharaidih       |
| 205 | Koderma | Jainagar  | Manjhawan.      |
| 206 | Koderma | Jainagar  | Sonpura         |
| 207 | Koderma | Jainagar  | Tamai           |
| 208 | Koderma | Jainagar  | Ambadih         |
| 209 | Koderma | Jainagar  | Badulia         |
| 210 | Koderma | Jainagar  | Kenduatand      |
| 211 | Koderma | Jainagar  | Matauni         |
| 212 | Koderma | Jainagar  | Nawadih         |
| 213 | Koderma | Jainagar  | Pandu           |
| 214 | Koderma | Jainagar  | Tetroun         |
| 215 | Koderma | Jainagar  | Behradih        |
| 216 | Koderma | Jainagar  | Tilokri         |
| 217 | Koderma | Jainagar  | Bagodih         |
| 218 | Koderma | Jainagar  | Bhinkodih       |
| 219 | Koderma | Jainagar  | Garchanch       |
| 220 | Koderma | Jainagar  | Mandaria        |
| 221 | Koderma | Jainagar  | Pratappur       |
| 222 | Koderma | Jainagar  | Yogiyatilha     |
| 223 | Koderma | Chandwara | Aragaro         |
| 224 | Koderma | Chandwara | Chokhandi       |
| 225 | Koderma | Chandwara | Joungi          |
| 226 | Koderma | Chandwara | Nawadih         |
| 227 | Koderma | Chandwara | Puto            |
| 228 | Koderma | Chandwara | Sardarodih      |
| 229 | Koderma | Chandwara | Badkidhamrai    |

8



|     |         |           |                 |
|-----|---------|-----------|-----------------|
| 230 | Koderma | Chandwara | Chhotki Dhamrai |
| 231 | Koderma | Chandwara | Manjhawan       |
| 232 | Koderma | Chandwara | Simaria         |
| 233 | Koderma | Chandwara | Bilaro          |
| 234 | Koderma | Chandwara | Biragadha       |
| 235 | Koderma | Chandwara | Birhorwa        |
| 236 | Koderma | Chandwara | Chenganwatand   |
| 237 | Koderma | Chandwara | Ghatodabar      |
| 238 | Koderma | Chandwara | Ghodtappi       |
| 239 | Koderma | Chandwara | Hathgaswa       |
| 240 | Koderma | Chandwara | Kumbhiatari     |
| 241 | Koderma | Chandwara | Marmotari       |
| 242 | Koderma | Chandwara | Okerchuan       |
| 243 | Koderma | Chandwara | Ratansot        |
| 244 | Koderma | Chandwara | Sindri          |
| 245 | Koderma | Chandwara | Bhondo          |
| 246 | Koderma | Chandwara | Chourahi        |
| 247 | Koderma | Chandwara | Ghutitand       |
| 248 | Koderma | Chandwara | Birsodih        |
| 249 | Koderma | Chandwara | Changudokalan   |
| 250 | Koderma | Chandwara | ChangudoKhurd   |
| 251 | Koderma | Chandwara | Charkipahri     |
| 252 | Koderma | Chandwara | Garagadgi       |
| 253 | Koderma | Chandwara | Harli           |
| 254 | Koderma | Chandwara | Jamkati         |
| 255 | Koderma | Chandwara | Larabad         |
| 256 | Koderma | Chandwara | Tetarchak       |
| 257 | Koderma | Chandwara | Bandidigthu     |
| 258 | Koderma | Chandwara | Chandwara       |
| 259 | Koderma | Chandwara | Baradih         |
| 260 | Koderma | Chandwara | Chandwara       |
| 261 | Koderma | Chandwara | Chilodih        |
| 262 | Koderma | Chandwara | Gaangodih       |
| 263 | Koderma | Chandwara | Mahugai         |
| 264 | Koderma | Chandwara | Bajpur          |
| 265 | Koderma | Chandwara | Belkhara        |
| 266 | Koderma | Chandwara | Chandraghati    |
| 267 | Koderma | Chandwara | Garaidih        |
| 268 | Koderma | Chandwara | Gawanpur        |
| 269 | Koderma | Chandwara | Jolhakarma      |
| 270 | Koderma | Chandwara | Kanko           |
| 271 | Koderma | Chandwara | Kurmidih        |
| 272 | Koderma | Chandwara | Pindaro         |
| 273 | Koderma | Chandwara | Kanti           |
| 274 | Koderma | Chandwara | Murtia          |

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|     |         |           |                  |
|-----|---------|-----------|------------------|
| 275 | Koderma | Chandwara | Dhab             |
| 276 | Koderma | Chandwara | Gajure           |
| 277 | Koderma | Chandwara | Khandi           |
| 278 | Koderma | Chandwara | Barkikaraunjia   |
| 279 | Koderma | Chandwara | Chhotkikaraunjia |
| 280 | Koderma | Chandwara | Madangundi       |
| 281 | Koderma | Chandwara | Harino           |
| 282 | Koderma | Chandwara | Pathalgadda      |
| 283 | Koderma | Chandwara | Titirchanch      |
| 284 | Koderma | Chandwara | Yogidih          |
| 285 | Koderma | Chandwara | Arniyamo         |
| 286 | Koderma | Chandwara | Bandachak        |
| 287 | Koderma | Chandwara | Bidar            |
| 288 | Koderma | Chandwara | Debodih          |
| 289 | Koderma | Chandwara | Digthu           |
| 290 | Koderma | Chandwara | Gaida            |
| 291 | Koderma | Chandwara | Kasiadih         |
| 292 | Koderma | Chandwara | Lodhni           |
| 293 | Koderma | Chandwara | Mayadih          |
| 294 | Koderma | Chandwara | Pipradih         |
| 295 | Koderma | Chandwara | Pokdanda         |
| 296 | Koderma | Chandwara | Bara             |
| 297 | Koderma | Chandwara | Chuanbar         |
| 298 | Koderma | Chandwara | Durginia         |
| 299 | Koderma | Chandwara | Mahtthadih       |
| 300 | Koderma | Chandwara | Purnatham        |
| 301 | Koderma | Chandwara | Tham             |
| 302 | Koderma | Chandwara | Kotwardih        |
| 303 | Koderma | Chandwara | Urwan            |
| 304 | Koderma | Chandwara | Maryopara        |
| 305 | Koderma | Markacho  | Babhandih        |
| 306 | Koderma | Markacho  | Bansdih          |
| 307 | Koderma | Markacho  | Beladih          |
| 308 | Koderma | Markacho  | Birajpur         |
| 309 | Koderma | Markacho  | Chopnadih        |
| 310 | Koderma | Markacho  | Dahuai           |
| 311 | Koderma | Markacho  | Jagdispur        |
| 312 | Koderma | Markacho  | Jhalakdih        |
| 313 | Koderma | Markacho  | Kondradih        |
| 314 | Koderma | Markacho  | Nagirto          |
| 315 | Koderma | Markacho  | Araiya           |
| 316 | Koderma | Markacho  | Asnatari         |
| 317 | Koderma | Markacho  | Bandarchaukwa    |
| 318 | Koderma | Markacho  | Banumurha        |
| 319 | Koderma | Markacho  | Beko             |

2



|     |         |          |              |
|-----|---------|----------|--------------|
| 320 | Koderma | Markacho | Dagarnawa    |
| 321 | Koderma | Markacho | Daldal       |
| 322 | Koderma | Markacho | Jhawatari    |
| 323 | Koderma | Markacho | Katio        |
| 324 | Koderma | Markacho | Kumbh        |
| 325 | Koderma | Markacho | lohabar      |
| 326 | Koderma | Markacho | Naudiha      |
| 327 | Koderma | Markacho | Parsabad     |
| 328 | Koderma | Markacho | Patruniya    |
| 329 | Koderma | Markacho | Pichhri      |
| 330 | Koderma | Markacho | Simarkundih  |
| 331 | Koderma | Markacho | Tepra        |
| 332 | Koderma | Markacho | Udalo        |
| 333 | Koderma | Markacho | Chilhotand   |
| 334 | Koderma | Markacho | Devipur      |
| 335 | Koderma | Markacho | Dongodih     |
| 336 | Koderma | Markacho | Gurha        |
| 337 | Koderma | Markacho | Karmagarha   |
| 338 | Koderma | Markacho | Kumardih     |
| 339 | Koderma | Markacho | Laludih      |
| 340 | Koderma | Markacho | Musobad      |
| 341 | Koderma | Markacho | Dasaro Khurd |
| 342 | Koderma | Markacho | Jalaihiya    |
| 343 | Koderma | Markacho | Kheraun      |
| 344 | Koderma | Markacho | Kushahana    |
| 345 | Koderma | Markacho | Harladih     |
| 346 | Koderma | Markacho | Jamu         |
| 347 | Koderma | Markacho | Kosdihra     |
| 348 | Koderma | Markacho | Nadkari      |
| 349 | Koderma | Markacho | Bigha        |
| 350 | Koderma | Markacho | Denibad      |
| 351 | Koderma | Markacho | Gadi         |
| 352 | Koderma | Markacho | Gagresinga   |
| 353 | Koderma | Markacho | Kadodih      |
| 354 | Koderma | Markacho | Ketrusinga   |
| 355 | Koderma | Markacho | Manjhladih   |
| 356 | Koderma | Markacho | Panduwai     |
| 357 | Koderma | Markacho | Raja Raidih  |
| 358 | Koderma | Markacho | yogidih      |
| 359 | Koderma | Markacho | Barwadih     |
| 360 | Koderma | Markacho | debwa        |
| 361 | Koderma | Markacho | Geragi       |
| 362 | Koderma | Markacho | Lalgarh      |
| 363 | Koderma | Markacho | Mahugai      |
| 364 | Koderma | Markacho | Sonedih      |

2





|     |         |          |                                 |
|-----|---------|----------|---------------------------------|
| 365 | Koderma | Markacho | Markacho                        |
| 366 | Koderma | Markacho | Dhubadih                        |
| 367 | Koderma | Markacho | Markacho                        |
| 368 | Koderma | Markacho | Papahara                        |
| 369 | Koderma | Markacho | Markacho                        |
| 370 | Koderma | Markacho | Bariyardih                      |
| 371 | Koderma | Markacho | Labania Alias Bela              |
| 372 | Koderma | Markacho | Murukmanai                      |
| 373 | Koderma | Markacho | Bahadurpur                      |
| 374 | Koderma | Markacho | Bakaspura                       |
| 375 | Koderma | Markacho | Dardahi                         |
| 376 | Koderma | Markacho | Garagdiha                       |
| 377 | Koderma | Markacho | Lohandiyo                       |
| 378 | Koderma | Markacho | Nawadih                         |
| 379 | Koderma | Markacho | Pandna                          |
| 380 | Koderma | Markacho | Pipradih                        |
| 381 | Koderma | Markacho | Manik Munda                     |
| 382 | Koderma | Markacho | Paplo                           |
| 383 | Koderma | Markacho | Bhagtiadih                      |
| 384 | Koderma | Markacho | Karikhokho                      |
| 385 | Koderma | Markacho | Khesmi Alias<br>Purnanagar      |
| 386 | Koderma | Markacho | Pasiadih                        |
| 387 | Koderma | Markacho | Tolkhar                         |
| 388 | Koderma | Markacho | Vishunpur Alias<br>Ranginiatand |
| 389 | Koderma | Markacho | Baradih                         |
| 390 | Koderma | Markacho | Barotand                        |
| 391 | Koderma | Markacho | Chak                            |
| 392 | Koderma | Markacho | Dasaro Kala                     |
| 393 | Koderma | Markacho | Dumardiha                       |
| 394 | Koderma | Markacho | Mahuatand                       |
| 395 | Koderma | Markacho | Nariahi                         |
| 396 | Koderma | Markacho | Simaria                         |
| 397 | Koderma | Markacho | Arkosa                          |
| 398 | Koderma | Markacho | Baijladhab                      |
| 399 | Koderma | Markacho | Bichariya                       |
| 400 | Koderma | Markacho | Khargu                          |
| 401 | Koderma | Markacho | Medwapahari                     |
| 402 | Koderma | Markacho | Naitand                         |
| 403 | Koderma | Markacho | Nawada                          |
| 404 | Koderma | Markacho | Pandaria                        |
| 405 | Koderma | Markacho | Telodih                         |
| 406 | Koderma | Markacho | Tilaiya                         |

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## POTENTIAL ZONE 2



### **Bouding Coordinates:**

1. 24°33'11.00"N 85°32'27.00"E
2. 24°37'48.00"N 85°40'31.00"E
3. 24°31'39.00"N 85°51'59.00"E
4. 24°20'42.00"N 85°50'40.00"E

### **List of villages in zone 2**

| Village name | Village name | Village name | Village name |
|--------------|--------------|--------------|--------------|
| Pasia        | Chilangia    | Dhorakola    | Haralya      |
| Sansihariya  | Jamuniyatarh | Kusahana     | Golgo        |
| Chitarpur    | Nerapur      | Tetalyadih   | Mahthadih    |
| Doidih       | Durodih      | Shivsagar    | Jogia Pahari |
| Chimnay      | Bhelwatarh   | Madhuwan     | Pathaldih    |
| Simaria      | Ramdih       | Baswariya    | Balapagari   |
| Masnodih     | Saaun        | Behradih     | Nawadih      |

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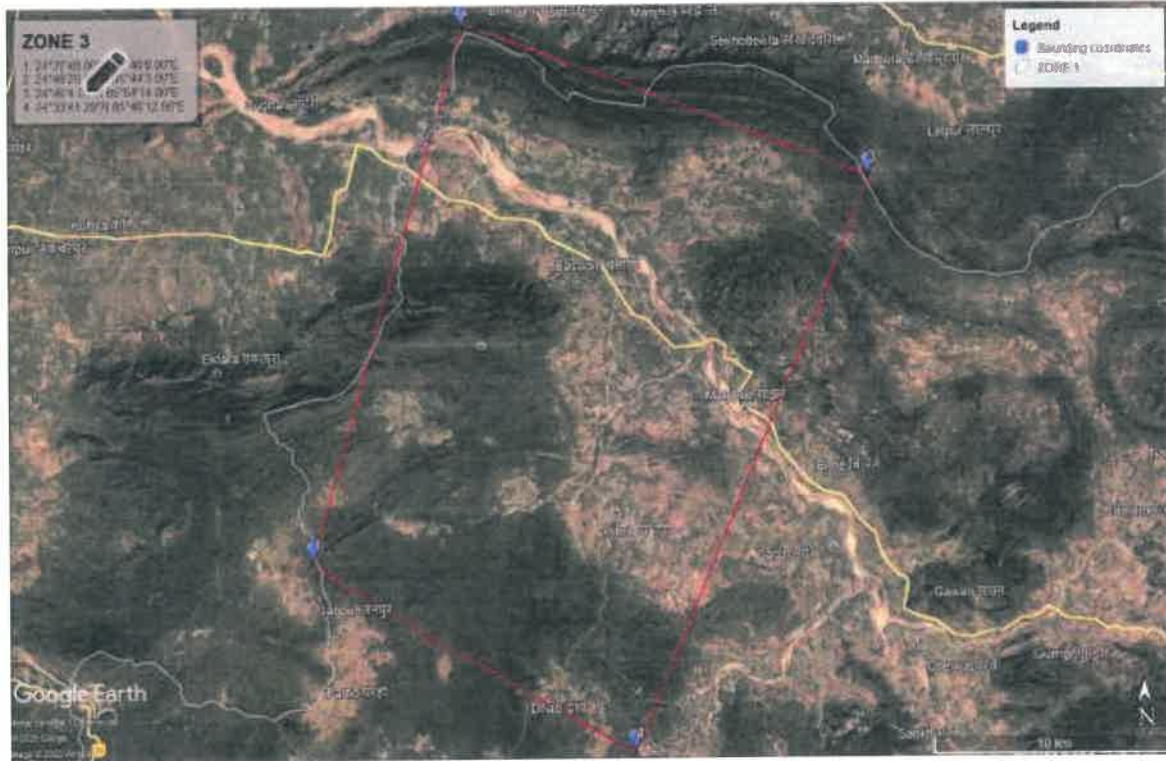


| Kishunpur       | Jeruwadih      | Domchanch South   | Domchanch North |
|-----------------|----------------|-------------------|-----------------|
| Bangal Kala     | Domchanch      | Maheshpur         | Taratanr        |
| Chanpur         | Pachegamo      | Chanpur           | Pumadih         |
| Nawada          | Karmadih       | Pesra             | Raidih          |
| Uperbad         | Kharkhar       | Laheria tarh      | Bhimadih        |
| Windomoh        | Nawalshahi     | Kushmai           | Taratarh        |
| Jamdiha         | Kenduytand     | Rahmat Tola       | Manjhla Nagar   |
| Pumanagar       | Khatolia       | Pasadih           | KariKhokho      |
| Bishnupur       | Tolkhar        | Markaccho         | Lalgarh         |
| Daiba           | Kadodih        | Telodih           | Medhawa Pahari  |
| Dardahi         | Gagresingha    | Yogidih           | Garagdiha       |
| Pipradih        | Nawadih        | Khatollya         | Dardahi         |
| Telaiya         | Naitand        | Bicharia          | Baijla Dhab     |
| Arkosa          | Bahadurpur     | Bela _            | Loheria         |
| Karmagarha      | Gurha          | Laldih            | Dogodih         |
| Chilotanr       | Murkmonai Tand | Purnanagar        | Rahmattola      |
| Bhumiyar Tola   | Devipur        | Chandrabanshitola | Kumardih        |
| Kothiyar        | Murkmonai      | Murkmanar         | Soglyatilha     |
| Baridih         | Ambatanr       | Dumargarha        | Pindrabad       |
| Daldal          | Dumargarha     | Nimadih           | Saharpura       |
| Madhopur        | Lodhipur       | Pichhri           | Parsabad        |
| Naudiha         | Dagernawan     | Nepadih           | Beko            |
| Udalo           | Katiya         | Ariya             | Patrunia        |
| Lohawar         | Terpa          | Kumbh             | Asnatari        |
| Jhawatari       | Karmikund      | Balapahari        | Garmundo        |
| Ahrai           | Nawadih        | Banga Khalar      | Karari          |
| Ramdih          | Jorasimar      | Padaria           | Putto           |
| Garaidih        | Baswariya      | Pathaldih         | Simariya        |
| Masnodih        | Saraun         | Gharbariabar      | Behradih        |
| Nawadih         | Kishunpur      | Jerwadih          | Pachegamo       |
| Harijan Tola    | Bigha          | Tiwari Tola       | Dhargaon        |
| Phulwaria       | Taratanr       | Maheshpur         | Domchanch South |
| Domchanch North | Mahthadih      | Tetaiydih         | Doidih          |
| Durodih         | Jogia Pahari   | Shivsagar         | Lengrampur      |
| Bhetwatarh      | Madhuwan       | Rupandih          |                 |

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## POTENTIAL ZONE 3



### **Bounding Co-ordinates:**

1. 24°37'49.00"N 85°40'8.00"E
2. 24°49'20.00"N 85°44'3.00"E
3. 24°46'4.00"N 85°54'14.00"E
4. 24°33'41.29"N 85°48'12.66"E

### **List of villages in potential zone 3**

| Sl.NO | District Name | Block Name | Village Name |
|-------|---------------|------------|--------------|
| 1     | Koderma       | Satgawan   | Ambabad      |
| 2     | Koderma       | Satgawan   | Angar        |
| 3     | Koderma       | Satgawan   | Bhuladih     |
| 4     | Koderma       | Satgawan   | Karchaita    |



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|    |         |          |                       |
|----|---------|----------|-----------------------|
| 5  | Koderma | Satgawan | Khawasdih             |
| 6  | Koderma | Satgawan | Khirikala             |
| 7  | Koderma | Satgawan | Khirikhurd            |
| 8  | Koderma | Satgawan | Mahthadih             |
| 9  | Koderma | Satgawan | Mohanria              |
| 10 | Koderma | Satgawan | Samaidih              |
| 11 | Koderma | Satgawan | Anandibad             |
| 12 | Koderma | Satgawan | Bariyardih            |
| 13 | Koderma | Satgawan | Basodih               |
| 14 | Koderma | Satgawan | Dedhkurwa             |
| 15 | Koderma | Satgawan | Dhanhara              |
| 16 | Koderma | Satgawan | Dumri                 |
| 17 | Koderma | Satgawan | Modidih               |
| 18 | Koderma | Satgawan | Rajghati              |
| 19 | Koderma | Satgawan | Rautdih               |
| 20 | Koderma | Satgawan | Belatand              |
| 21 | Koderma | Satgawan | Bishnidih             |
| 22 | Koderma | Satgawan | Butbaria              |
| 23 | Koderma | Satgawan | Dhuwadih              |
| 24 | Koderma | Satgawan | Itai                  |
| 25 | Koderma | Satgawan | Jageshwar<br>Kanwarwa |
| 26 | Koderma | Satgawan | Jogidih               |
| 27 | Koderma | Satgawan | Lohar                 |
| 28 | Koderma | Satgawan | Madkupi               |
| 29 | Koderma | Satgawan | Mohanpur              |
| 30 | Koderma | Satgawan | Rasaila               |
| 31 | Koderma | Satgawan | Bhakhra               |
| 32 | Koderma | Satgawan | Deoghar               |
| 33 | Koderma | Satgawan | Dhab                  |
| 34 | Koderma | Satgawan | Dumduma               |
| 35 | Koderma | Satgawan | Ghodsimar             |
| 36 | Koderma | Satgawan | Kataiya               |
| 37 | Koderma | Satgawan | Khairakala            |
| 38 | Koderma | Satgawan | Madwa                 |
| 39 | Koderma | Satgawan | Pokhardiha            |
| 40 | Koderma | Satgawan | Shivrampur            |
| 41 | Koderma | Satgawan | Bariarpur             |
| 42 | Koderma | Satgawan | Bhagadih              |
| 43 | Koderma | Satgawan | Gajedih               |
| 44 | Koderma | Satgawan | Ghurmudiya            |
| 45 | Koderma | Satgawan | Jhanjhidih            |
| 46 | Koderma | Satgawan | Jhingua               |
| 47 | Koderma | Satgawan | Jogidih.              |
| 48 | Koderma | Satgawan | Khuta                 |

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|    |         |          |                   |
|----|---------|----------|-------------------|
| 49 | Koderma | Satgawan | Manorathdih       |
| 50 | Koderma | Satgawan | Nagri             |
| 51 | Koderma | Satgawan | Udhokoni          |
| 52 | Koderma | Satgawan | Anantpur          |
| 53 | Koderma | Satgawan | Bhartuki          |
| 54 | Koderma | Satgawan | dharkula          |
| 55 | Koderma | Satgawan | Donaia            |
| 56 | Koderma | Satgawan | Ghurshahi         |
| 57 | Koderma | Satgawan | Hadhadwa          |
| 58 | Koderma | Satgawan | Jamtoto           |
| 59 | Koderma | Satgawan | Kanikendra        |
| 60 | Koderma | Satgawan | Karmo             |
| 61 | Koderma | Satgawan | Kirtania          |
| 62 | Koderma | Satgawan | Kothiyar          |
| 63 | Koderma | Satgawan | Kunda             |
| 64 | Koderma | Satgawan | Pachane           |
| 65 | Koderma | Satgawan | Petro             |
| 66 | Koderma | Satgawan | Ratanpur          |
| 67 | Koderma | Satgawan | Sethwa            |
| 68 | Koderma | Satgawan | Simratari         |
| 69 | Koderma | Satgawan | Bajnia            |
| 70 | Koderma | Satgawan | Chunadih          |
| 71 | Koderma | Satgawan | Dhanuki           |
| 72 | Koderma | Satgawan | Dharampur         |
| 73 | Koderma | Satgawan | Lembo             |
| 74 | Koderma | Satgawan | Madhopur          |
| 75 | Koderma | Satgawan | Newti             |
| 76 | Koderma | Satgawan | Sarbahna          |
| 77 | Koderma | Satgawan | Selari            |
| 78 | Koderma | Satgawan | Baghmara          |
| 79 | Koderma | Satgawan | Bijhwaria         |
| 80 | Koderma | Satgawan | Galwati           |
| 81 | Koderma | Satgawan | Katahara          |
| 82 | Koderma | Satgawan | Khairakhurd       |
| 83 | Koderma | Satgawan | Marchoi           |
| 84 | Koderma | Satgawan | Reserve<br>Forest |
| 85 | Koderma | Satgawan | Bhadali           |
| 86 | Koderma | Satgawan | Danti             |
| 87 | Koderma | Satgawan | Ghoddaud          |
| 88 | Koderma | Satgawan | Jhargaon          |
| 89 | Koderma | Satgawan | Kanikend          |
| 90 | Koderma | Satgawan | Khairakala        |
| 91 | Koderma | Satgawan | Maheshdih         |
| 92 | Koderma | Satgawan | Mananpur          |



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|     |         |          |                       |
|-----|---------|----------|-----------------------|
| 93  | Koderma | Satgawan | Mirganj               |
| 94  | Koderma | Satgawan | Misrichak             |
| 95  | Koderma | Satgawan | Nawadpur              |
| 96  | Koderma | Satgawan | Pachoudi              |
| 97  | Koderma | Satgawan | Pahadpur              |
| 98  | Koderma | Satgawan | Rajour                |
| 99  | Koderma | Satgawan | Bad                   |
| 100 | Koderma | Satgawan | Hardia                |
| 101 | Koderma | Satgawan | Jharahi               |
| 102 | Koderma | Satgawan | Kairi                 |
| 103 | Koderma | Satgawan | Nawadih               |
| 104 | Koderma | Satgawan | Tamoria               |
| 105 | Koderma | Satgawan | Baigna                |
| 106 | Koderma | Satgawan | Chhapri               |
| 107 | Koderma | Satgawan | Debodih               |
| 108 | Koderma | Satgawan | Dedho                 |
| 109 | Koderma | Satgawan | Hardi                 |
| 110 | Koderma | Satgawan | Harilawa              |
| 111 | Koderma | Satgawan | Jogodih               |
| 112 | Koderma | Satgawan | Lakrahi               |
| 113 | Koderma | Satgawan | Mochramo              |
| 114 | Koderma | Satgawan | Phulwaria             |
| 115 | Koderma | Satgawan | Rajabar               |
| 116 | Koderma | Satgawan | Chanddih              |
| 117 | Koderma | Satgawan | Gangdih               |
| 118 | Koderma | Satgawan | Lakshmandih           |
| 119 | Koderma | Satgawan | Naraidih              |
| 120 | Koderma | Satgawan | Nauachak              |
| 121 | Koderma | Satgawan | Ramdih                |
| 122 | Koderma | Satgawan | Samaldih              |
| 123 | Koderma | Satgawan | Sarveydih             |
| 124 | Koderma | Satgawan | Tulachak              |
| 125 | Koderma | Satgawan | Baidih                |
| 126 | Koderma | Satgawan | Mahthakhaira          |
| 127 | Koderma | Satgawan | Nasarganj             |
| 128 | Koderma | Satgawan | Pahar Singh<br>Khaira |
| 129 | Koderma | Satgawan | Shivpur               |
| 130 | Koderma | Satgawan | Sihas                 |
| 131 | Koderma | Satgawan | Gargohia              |
| 132 | Koderma | Satgawan | Halkusa               |
| 133 | Koderma | Satgawan | Jagnidih              |
| 134 | Koderma | Satgawan | Kalidih               |
| 135 | Koderma | Satgawan | Khab                  |
| 136 | Koderma | Satgawan | Koslo                 |

8



|     |         |          |            |
|-----|---------|----------|------------|
| 137 | Koderma | Satgawan | Masania    |
| 138 | Koderma | Satgawan | Masania    |
| 139 | Koderma | Satgawan | Mathuradih |
| 140 | Koderma | Satgawan | Matukdih   |
| 141 | Koderma | Satgawan | Nandudih   |
| 142 | Koderma | Satgawan | Panchmoh   |
| 143 | Koderma | Satgawan | Sahbagi    |
| 144 | Koderma | Satgawan | Sirmatdih  |
| 145 | Koderma | Satgawan | Tehro      |



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जंगली हाथी इस संरक्षित क्षेत्र के चारों ओर और आसपास घूमते हैं, और कभी कभी गिरिडीह, चतरा और पलामू में भी प्रवास करते हैं; कोडरमा वन्यजीव अभयारण्य तिलैया, हरहद, चंदा, हुराही, पिपरादाह और पिपराकोन नदी प्रणालियों के जलभृतों में स्थित है; संरक्षित क्षेत्र के वन वर्षा को अवरोधित करके भूजल जलभृतों को रिचार्ज करने में मदद करते हैं और वन मृदा कटाव को न्यूनतम करके नदियों और जलधाराओं में गादजमाव से उन्हें सुरक्षित रखते हैं;

और, कोडरमा वन्यजीव अभयारण्य में देश में अन्नक का सबसे समृद्ध भंडार है। इस संरक्षित क्षेत्र में चैम्पियन और सेठ वर्गीकरण के अनुसार, वनों के विविध प्रकारों- 5बी/ सी 1 उत्तरी उष्णकटिबंधीय शुष्क प्रायद्वीपीय साल वन, 5बी/सी2 उत्तरी उष्णकटिबंधीय शुष्क मिश्रित पर्णपाती वन, 5/डी.एस. शुष्क पर्णपाती झाड़ी वन और (5/ई2) बोंसवेलिया वन की मौजूदगी है। कोडरमा अभयारण्य के वनों में स्तनधारियों की 14 प्रजातियां, पक्षियों की 35 से अधिक प्रजातियों और सरीसृपों की 9 प्रजातियों के लिए उत्कृष्ट पर्यावास हैं ;

और, कोडरमा वन्यजीव अभयारण्य के चारों ओर के क्षेत्र को ,जिसका विस्तार और सीमाएं इस अधिसूचना के पैरा 1 में विनिर्दिष्ट हैं ,पारिस्थितिकी और पर्यावरणीय दृष्टि से पारिस्थितिकी संवेदी जोन के रूप में सुरक्षित और संरक्षित करना तथा उक्त पारिस्थितिकी संवेदी जोन में उद्योगों या उद्योगों की श्रेणियों के प्रचालन तथा प्रसंस्करण को प्रतिषिद्ध करना आवश्यक है;

अतः, अब, केन्द्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, 1986 के नियम 5 के उपनियम (3) के साथ पठित पर्यावरण (संरक्षण) अधिनियम, 1986 (1986 का 29) ( जिसे इसमें इसके पश्चात् पर्यावरण अधिनियम कहा गया है) की उपधारा (1) और धारा 3 की उपधारा (2) और उपधारा (3) के खंड (v) और खंड (xiv) द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, झारखण्ड राज्य के कोडरमा जिले में कोडरमा वन्यजीव अभयारण्य की सीमा के चारों शून्य से 5 किलोमीटर तक विस्तारित क्षेत्र को कोडरमा वन्यजीव अभयारण्य पारिस्थितिकी संवेदी जोन (जिसे इसमें इसके पश्चात् पारिस्थितिकी संवेदी जोन कहा गया है) के रूप में अधिसूचित करती है, जिसका विवरण निम्नानुसार है, अर्थात् :-

**1. पारिस्थितिक संवेदी जोन का विस्तार और सीमा.**-(1) पारिस्थितिकी संवेदी जोन का विस्तार कोडरमा वन्यजीव अभयारण्य के चारों ओर शून्य (अन्तरराज्यीय सीमा के कारण) से 5 किलोमीटर तक है और पारिस्थितिकी संवेदी जोन का क्षेत्रफल 133.247 वर्ग किलोमीटर है।

- (2) कोडरमा वन्यजीव अभयारण्य और इसके पारिस्थितिकी संवेदी जोन की सीमा का वर्णन **उपाबंध I** के रूप में उपाबद्ध है।
- (3) सीमा ब्यौरे और अक्षांश और देशांतर के साथ पारिस्थितिकी संवेदी जोन के कोडरमा वन्यजीव अभयारण्य का मानचित्र **उपाबंध-II क** और **उपाबंध-II ख** के रूप में उपाबद्ध है।
- (4) पारिस्थितिकी संवेदी जोन और कोडरमा वन्यजीव अभयारण्य की सीमा के भू-निर्देशांकों की सूची **उपाबंध-III** की सारणी **क** और सारणी **ख** के रूप में उपाबद्ध है।
- (5) प्रमुख बिंदुओं के भू-निर्देशांकों के साथ पारिस्थितिकी संवेदी जोन के अंतर्गत आने वाले ग्रामों की सूची सारणी **क** और सारणी **ख** **उपाबंध-IV** के रूप में उपाबद्ध है।

**2. पारिस्थितिकी संवेदी जोन के लिए आंचलिक महायोजना.**-(1) राज्य सरकार, पारिस्थितिकी संवेदी जोन के प्रयोजन के लिए, राजपत्र में इस अधिसूचना के प्रकाशन की तारीख से दो वर्ष की अवधि के भीतर, स्थानीय व्यक्तियों के परामर्श से और इस अधिसूचना में दिए गए अनुबंधों का पालन करते हुए, राज्य सरकार के सक्षम प्राधिकारी के अनुमोदनार्थ एक आंचलिक महायोजना बनायेगी।

(2) पारिस्थितिकी संवेदी जोन के लिए आंचलिक महायोजना राज्य सरकार द्वारा ऐसी रीति जैसा इस अधिसूचना में विनिर्दिष्ट है और सुसंगत केन्द्रीय और राज्य विधियों तथा केन्द्रीय सरकार द्वारा जारी मार्गदर्शक सिद्धांतों, यदि कोई हो, के अनुरूप भी तैयार की जाएगी ।

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(3) आंचलिक महायोजना राज्य सरकार के निम्नलिखित विभागों के साथ परामर्श से पर्यावरणीय और पारिस्थितिकीय विचारणों को उसमें एकीकृत करने के लिए तैयार की जाएगी, अर्थात्:-

- (i) पर्यावरण;
- (ii) वन और वन्यजीव;
- (iii) कृषि;
- (iv) राजस्व;
- (v) शहरी विकास;
- (vi) पर्यटन;
- (vii) ग्रामीण विकास;
- (viii) सिंचाई और बाढ़ नियंत्रण;
- (ix) नगरपालिका;
- (x) पंचायती राज;
- (xi) झारखण्ड राज्य प्रदूषण नियंत्रण बोर्ड; और
- (xii) लोक निर्माण विभाग।

(4) आंचलिक महायोजना अनुमोदित विद्यमान भू-उपयोग, अवसंरचनात्मक और क्रियाकलापों पर कोई निर्बंधन अधिरोपित नहीं करेगी जब तक कि इस अधिसूचन में इस प्रकार विनिर्दिष्ट न हो और आंचलिक महायोजना सभी अवसंरचना और कार्यकलापों में दक्षता और पारिस्थितिकीय अनुकूलता का संबर्धन करेगी।

(5) आंचलिक महायोजना में अनाच्छादित क्षेत्रों के जीर्णोद्धार, विद्यमान जल निकायों के संरक्षण, आवाह क्षेत्रों के प्रबंधन, जल-संभरों के प्रबंधन, भूतल जल के प्रबंधन, मृदा और नदी संरक्षण, स्थानीय समुदायों की आवश्यकताओं तथा पारिस्थितिकी और पर्यावरण से संबंधित ऐसे अन्य पहलूओं, जिन पर ध्यान देना आवश्यक है, के लिए उपबंध होंगे।

(6) आंचलिक महायोजना में सभी विद्यमान पूजा स्थलों, ग्रामों और नगरीय बंदोबस्तों, वनों के प्रकार और किस्मों, कृषि क्षेत्रों, ऊपजाऊ भूमि, हरित क्षेत्र जैसे उद्यान और उसी प्रकार के स्थान, उद्यान कृषि क्षेत्र, आर्किडों, झीलों और अन्य जल निकायों का विद्यमान और प्रस्तावित भू उपयोग की विशेषताओं के ब्यौरे देने वाले मानचित्रों के साथ अभ्यंकन करेगी।

(7) आंचलिक महायोजना पारिस्थितिकी संवेदी जोन में विकास को विनियमित करेगी और पैरा 4 की सारणी में यथासूचीबद्ध प्रतिषिद्ध और विनियमित क्रियाकलापों का पालन करेगी जिससे स्थानीय समुदायों के पारिस्थितिकी-जन्य विकास और जीविका को सुनिश्चित किया जा सके।

(8) आंचलिक महायोजना, क्षेत्रीय विकास योजना की सह-कालिक होगी।

(9) ऐसी अनुमोदित आंचलिक महायोजना, निगरानी समिति के लिए एक संदर्भ दस्तावेज होगी ताकि वह इस अधिसूचना के उपबंधों के अनुसार निगरानी के अपने कर्तव्यों का निर्वहन कर सके।

3. **राज्य सरकार द्वारा किए जाने वाले उपाय.-** राज्य सरकार इस अधिसूचना के उपबंधों को प्रभावी बनाने के लिए निम्नलिखित उपाय करेगी, अर्थात्:-

(1) **भू-उपयोग.-** (क) पारिस्थितिकी संवेदी जोन में वनों, बागवानी क्षेत्रों, कृषि क्षेत्रों, मनोरंजन के लिए चिन्हित उद्यानों और खुले स्थानों का वृहद वाणिज्यिक या आवासीय परिसरों या औद्योगिक क्रियाकलापों के लिए प्रयोग या संपरिवर्तन अनुज्ञात नहीं किया जाएगा:

परंतु पारिस्थितिकी संवेदी जोन के भीतर भाग) क (में विनिर्दिष्ट प्रयोजन से भिन्न प्रयोजन के लिए कृषि और अन्य भूमि का संपरिवर्तन, मानीटरी समिति की सिफारिश पर और सक्षम प्राधिकारी के पूर्व अनुमोदन से, क्षेत्रीय नगर योजना

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अधिनियम तथा यथा लागू केन्द्रीय/राज्य सरकार के अन्य नियमों एवं विनियमों के अधीन तथा इस अधिसूचना के उपबंधों के अनुसार स्थानीय निवासियों की निम्नलिखित आवासीय जरूरतों को पूरा करने के लिए अनुज्ञात किया जाएगा:-

- (i) विद्यमान सड़कों को चौड़ा करना, उन्हें सुदृढ़ करना और नई सड़कों का संनिर्माण;
- (ii) बुनियादी ढांचों और नागरिक सुविधाओं का संनिर्माण और नवीकरण;
- (iii) प्रदूषण उत्पन्न करने वाले लघु उद्योग;
- (iv) कुटीर उद्योग और ग्राम उद्योग तथा पारिस्थितिकी पर्यटन में सहायक सुविधा भण्डार, स्थानीय सुख-सुविधाएं तथा ग्रह वास; और
- (v) बढ़ावा दिए गए और पैरा-4 में उल्लिखित क्रियाकलाप।

परंतु यह भी कि क्षेत्रीय शहरी नियोजन अधिनियम के अधीन सक्षम प्राधिकारी के पूर्व अनुमोदन के बिना तथा राज्य सरकार के अन्य नियमों और विनियमों तथा संविधान के अनुच्छेद 244 के उपबंधों तथा तत्समय प्रवृत्त विधि के अनुपालन के बिना जिसके अंतर्गत अनुसूचित जनजाति और अन्य परंपरागत वन निवासी (वन अधिकारों की मान्यता) अधिनियम, 2006 (2007 का 2) भी है, वाणिज्यिक या औद्योगिक विकास क्रियाकलापों के लिए जनजातीय भूमि का प्रयोग अनुज्ञात नहीं होगा:

परंतु यह भी कि पारिस्थितिकी संवेदी जोन के भीतर भू-अभिलेखों में उपसंज्ञात कोई त्रुटि निगरानी समिति के विचार प्राप्त करने के पश्चात्, राज्य सरकार द्वारा प्रत्येक मामले में एक बार संशोधित होगी और उक्त त्रुटि के संशोधन की सूचना केंद्रीय सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय को देनी होगी:

परंतु यह भी कि उपर्युक्त त्रुटि का संशोधन में, इस उप-पैरा के अधीन यथा उपबंधित के सिवाय, किसी भी दशा में भू-उपयोग का परिवर्तन सम्मिलित नहीं होगा;

(ख) अनुप्रयुक्त या अनुत्पादक कृषि क्षेत्रों में पुनः वनीकरण तथा पर्यावासों और जैव-विविधता की बहाली के प्रयास किए जाएंगे।

(2) **प्राकृतिक जल स्रोत.-** आंचलिक महायोजना में सभी प्राकृतिक जल स्रोतों के आवाह क्षेत्रों की पहचान की जाएगी और उनके संरक्षण और पुनर्नवीकरण के लिए योजना सम्मिलित की जाएगी और राज्य सरकार द्वारा ऐसे क्षेत्रों या उनके आसपास के क्षेत्रों के लिए हानिकारक विकास क्रियाकलापों को प्रतिषिद्ध करने के लिए ऐसी रीति से मार्ग निर्देश तैयार किए जाएंगे।

(3) **पर्यटन या पारिस्थितिकी पर्यटन.-** (क) पारिस्थितिकी संवेदी जोन के भीतर सभी नए पारिस्थितिकी पर्यटन क्रियाकलाप या विद्यमान पर्यटन क्रियाकलापों का विस्तार पारिस्थितिकी संवेदी जोन सम्बंधी पर्यटन महायोजना के अनुसार अनुज्ञात होगा।

(ख) पारिस्थितिकी पर्यटन महायोजना राज्य सरकार के पर्यावरण और वन विभागों के परामर्श से पर्यटन विभाग द्वारा बनायी जाएगी।

(ग) पर्यटन महायोजना आंचलिक महायोजना का घटक होगी।

(घ) पर्यटन महायोजना पारिस्थितिकी संवेदी जोन की वहन क्षमता के आधार पर तैयार की जायेगी।

(ङ) पारिस्थितिकी पर्यटन संबंधी क्रियाकलाप निम्नलिखित के अधीन विनियमित होंगे:-

- (i) संरक्षित क्षेत्र की सीमा से एक किलोमीटर के भीतर या पारिस्थितिकी संवेदी जोन की सीमा तक, इनमें जो भी अधिक निकट हो, किसी होटल या रिसोर्ट का नया सन्निर्माण अनुज्ञात नहीं किया जाएगा:

तथापि, पारिस्थितिकी पर्यटन सुविधाओं के लिए संरक्षित क्षेत्र की सीमा से एक किलोमीटर की दूरी से परे पारिस्थितिकी संवेदी जोन की सीमा तक पूर्व परिभाषित और अभीहित क्षेत्रों में पर्यटन महायोजना के अनुसार, नए होटलों और रिसोर्ट की स्थापना अनुज्ञात होगी;

- (ii) पारिस्थितिकी संवेदी जोन के अन्दर सभी नए पर्यटन क्रिया-कलापों या विद्यमान पर्यटन क्रियाकलापों का विस्तार, केन्द्रीय सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा जारी दिशानिर्देशों तथा पारिस्थितिकी

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पर्यटन, पारिस्थितिकी-शिक्षा और पारिस्थितिकी-विकास पर बल देने वाले राष्ट्रीय व्याघ्र संरक्षण प्राधिकरण द्वारा जारी पारिस्थितिकी पर्यटन संबंधी दिशानिर्देशों) समय-समय पर यथा संशोधित (के अनुसार होगा;

- (iii) आंचलिक महायोजना का अनुमोदन होने तक, पर्यटन के विकास और विद्यमान पर्यटन क्रियाकलापों के विस्तार को वास्तविक स्थल-विशिष्ट संवीक्षा तथा निगरानी समिति की सिफारिश के आधार पर संबंधित विनियामक प्राधिकरणों द्वारा अनुज्ञात किया जाएगा और पारिस्थितिकी संवेदी जोन में किसी नए होटल/रिजार्ट या वाणिज्यिक प्रतिष्ठान का संनिर्माण अनुज्ञात नहीं होगा।

(4) **प्राकृतिक विरासत.**— पारिस्थितिकी संवेदी जोन के अंतर्गत आने वाले बहुमूल्य प्राकृतिक विरासत के सभी स्थलों जैसे कि जीन पूल रिजर्व क्षेत्र, शैल संरचना, जल प्रपात, झरने, दर्रे, उपवन, गुफाएं, स्थल, वनपथ, रोहण मार्ग, उत्प्रपात आदि की पहचान की जाएगी और उनकी सुरक्षा एवं संरक्षण के लिए आंचलिक महायोजना के भाग के रूप में एक विरासत संरक्षण योजना बनायी जाएगी।

(5) **मानव निर्मित विरासत स्थल.**— पारिस्थितिकी संवेदी जोन में भवनों, संरचनाओं, कलाकृति-क्षेत्रों तथा ऐतिहासिक, स्थापत्य संबंधी, सौंदर्यात्मक और सांस्कृतिक महत्व के क्षेत्रों की पहचान की जाएगी और उनके संरक्षण के लिए आंचलिक महायोजना के भाग के रूप में एक विरासत संरक्षण योजना बनायी जाएगी।

(6) **ध्वनि प्रदूषण.**— ध्वनि प्रदूषण) विनियमन और नियंत्रण (नियम, 2000 में नियत उपबंधों के अनुसरण में पारिस्थितिकी संवेदी जोन में ध्वनि प्रदूषण के नियंत्रण के लिए विनियमों और उसके अधीन बनाए गए संशोधित नियमों को कार्यान्वित करेगा।

(7) **वायु प्रदूषण.**— पारिस्थितिकी संवेदी जोन में, वायु प्रदूषण की रोकथाम और नियंत्रण, वायु (प्रदूषण निवारण और नियंत्रण) अधिनियम, 1981 (1981 का 14) के उपबंधों और उसके अधीन बनाए गए नियमों और उनमें किए गए संशोधनों के अनुसार किया जाएगा।

(8) **बहिस्त्राव का निस्सारण.**— पारिस्थितिकी संवेदी जोन में उपचारित बहिस्त्राव का निस्सारण, और उसके अधीन बनाए गए नियमों के अन्तर्गत सम्मिलित किए गए पर्यावरणीय प्रदूषण के निस्सारण संबंधी साधारण मानकों या राज्य सरकार द्वारा नियत मानकों, इनमें जो भी अधिक कठोर हों, के अनुसार किया जाएगा।

(9) **ठोस अपशिष्ट.**— ठोस अपशिष्ट का निपटान और प्रबंधन निम्नानुसार किया जाएगा:-

(क) पारिस्थितिकी संवेदी जोन में ठोस अपशिष्ट का निपटान और प्रबंधन भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की समय-समय पर यथा संशोधित अधिसूचना सं. का.आ. 1357(अ), तारीख 8 अप्रैल, 2016 के अधीन प्रकाशित ठोस अपशिष्ट प्रबंधन नियम, 2016 के उपबंधों के अनुसार किया जाएगा; अकार्बनिक पदार्थों का निपटान पारिस्थितिकी संवेदी जोन से बाहर चिन्हित किए गए स्थानों पर पर्यावरण-अनुकूल रीति से किया जाएगा;

(ख) पारिस्थितिकी संवेदी जोन में मान्य प्रौद्योगिकियों) ई एस एम( का प्रयोग करते हुए विद्यमान नियमों और विनियमों के अनुरूप ठोस अपशिष्ट का सुरक्षित और पर्यावरण-अनुकूल प्रबंधन अनुज्ञात किया जाएगा।

(10) **जैव चिकित्सा अपशिष्ट का प्रबंधन.**— जैव चिकित्सा अपशिष्ट का प्रबंधन निम्नानुसार किया जाएगा:-

(क) पारिस्थितिकी संवेदी जोन में जैव चिकित्सा अपशिष्ट का निपटान भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की, समय-समय पर यथा संशोधित अधिसूचना सं.सा.का.नि 343 (अ), तारीख 28 मार्च, 2016 के अधीन प्रकाशित जैव चिकित्सा अपशिष्ट प्रबंधन नियम, 2016 के उपबंधों के अनुसार किया जाएगा।

(ख) पारिस्थितिकी संवेदी जोन में मान्य प्रौद्योगिकियों का प्रयोग करते हुए विद्यमान नियमों और विनियमों के अनुरूप जैव-चिकित्सा अपशिष्ट का सुरक्षित और पर्यावरण-अनुकूल प्रबंधन अनुज्ञात किया जाएगा।

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(11) **प्लास्टिक अपशिष्ट का प्रबंधन.-** पारिस्थितिकी संवेदी जोन में प्लास्टिक अपशिष्ट का प्रबंधन, भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की, समय-समय पर यथा संशोधित, अधिसूचना सं.सा.का.नि 340(अ), तारीख 18 मार्च, 2016 के अधीन प्रकाशित प्लास्टिक अपशिष्ट प्रबंधन नियम, 2016 के उपबंधों के अनुसार किया जाएगा।

(12) **निर्माण और विध्वंस अपशिष्ट का प्रबंधन.-** पारिस्थितिकी संवेदी जोन में निर्माण और विध्वंस अपशिष्ट का प्रबंधन, भारत सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय की, समय-समय पर यथा संशोधित, अधिसूचना सं.सा.का.नि 317(अ), तारीख 29 मार्च, 2016 के अधीन प्रकाशित संनिर्माण और विध्वंस अपशिष्ट प्रबंधन नियम, 2016 के उपबंधों के अनुसार किया जाएगा।

(13) **ई-अपशिष्ट.-** पारिस्थितिकी संवेदी जोन में ई-अपशिष्ट का प्रबंधन, भारत सरकार पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय द्वारा प्रकाशित तथा समय-समय पर यथा संशोधित, ई-अपशिष्ट प्रबंधन नियम, 2016 के उपबंधों के अनुसार किया जाएगा।

(14) **यानीय परिवहन.-** परिवहन की यानीय गतिविधि प्राणियों के अनुकूल रीति से विनियमित की जाएगी और इस संबंध में आंचलिक महायोजना में विशेष उपबंध सम्मिलित किए जाएंगे और जब तक ऐसी आंचलिक महायोजना राज्य सरकार के सक्षम प्राधिकारी द्वारा तैयार और अनुमोदित नहीं किया जाता है। मानीटरी समिति सुसंगत अधिनियमों और उसके अधीन बनाए गए नियमों और विनियमों के अधीन यानीय गतिविधियों के अनुपालन को मानीटरी करेगी।

(15) **यानीय प्रदूषण.-** यानीय प्रदूषण की रोकथाम और नियंत्रण लागू विधियों के अनुसार किया जाएगा और स्वच्छतर ईंधन के प्रयोग के प्रयास किए जाएंगे।

(16) **औद्योगिक ईकाइयां.-** (i) सरकारी राजपत्र में इस अधिसूचना के प्रकाशन की तारीख को या उसके बाद पारिस्थितिकी संवेदी जोन में किसी नए प्रदूषणकारी उद्योग की स्थापना अनुज्ञात नहीं होगी।

(ii) जब तक इस अधिसूचना में विनिर्दिष्ट न हो, पारिस्थितिकी संवेदी जोन में केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा फरवरी, 2016 में जारी दिशानिर्देशों में किए गए उद्योगों के वर्गीकरण के अनुसार केवल गैर-प्रदूषणकारी उद्योगों की स्थापना अनुज्ञात होगी। इसके अतिरिक्त, गैर-प्रदूषणकारी कुटीर उद्योगों को बढ़ावा दिया जाएगा।

(17) **पहाड़ी ढलानों का संरक्षण.-** पहाड़ी ढलानों का संरक्षण निम्नानुसार किया जाएगा:-

(क) आंचलिक महायोजना में पहाड़ी ढलानों के उन क्षेत्रों को दर्शाया जाएगा जिनमें किसी भी संनिर्माण की अनुज्ञा नहीं होगी।

(ख) जिन ढलानों या विद्यमान खड़ी पहाड़ी ढलानों में अत्यधिक भू-क्षरण होता है उनमें किसी भी संनिर्माण की अनुज्ञा नहीं होगी।

**4. पारिस्थितिकी संवेदी जोन में प्रतिषिद्ध या विनियमित किए जाने वाले क्रियाकलापों की सूची.-** पारिस्थितिकी संवेदी जोन में सभी क्रियाकलाप, पर्यावरण (संरक्षण) अधिनियम, और तटीय विनियमन जोन अधिसूचना, 2011 और पर्यावरणीय प्रभाव आकलन अधिसूचना, 2006 सहित उसके अधीन बने नियमों और वन (संरक्षण) अधिनियम, 1980 (1980 का 69), भारतीय वन अधिनियम, 1927 (1927 का 16), वन्यजीव (संरक्षण) अधिनियम, 1972 (1972 का 53) सहित अन्य लागू नियमों तथा उनमें किए गए संशोधनों के अनुसार शासित होंगे और नीचे दी गई सारणी में विनिर्दिष्ट रीति से विनियमित होंगे, अर्थात्:-

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## सारणी

| क्र. सं.<br>(1)                 | क्रियाकलाप<br>(2)                                                            | टिप्पणी<br>(3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>क. प्रतिषिद्ध क्रियाकलाप</b> |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 1.                              | वाणिज्यिक खनन, पत्थर उत्खनन और अपघर्षण इकाईयां।                              | (क) सभी प्रकार के नए और विद्यमान खनन (लघु और वृहत खनिज), पत्थर की खानें और उनको तोड़ने की इकाईयां वास्तविक स्थानीय निवासियों की घरेलू आवश्यकताओं जिसमें निजी उपयोग के लिए मकानों के संनिर्माण या मरम्मत के लिए धरती को खोदना और मकान बनाने के लिए देशी टाइल्स या ईंटों का निर्माण करना भी सम्मिलित है, के सिवाय नहीं होंगी।<br><br>(ख) खनन प्रचालन, माननीय उच्चतम न्यायालय की रिट याचिका (सिविल) सं. 1995 का 202 टी.एन. गौडाबर्मन थिरूमूलपाद बनाम भारत संघ के मामले में आदेश तारीख 4 अगस्त, 2006 और रिट याचिका (सी) सं. 2012 का 435 गोवा फाउंडेशन बनाम भारत संघ के मामले में तारीख 21 अप्रैल, 2014 के आदेश के अनुसरण में प्रचालन होगा। |
| 2.                              | प्रदूषण) जल, वायु, मृदा, ध्वनि आदि( उत्पन्न करने वाले उद्योगों की स्थापना।   | पारिस्थितिकी संवेदी जोन में कोई नया उद्योग लगाने और वर्तमान प्रदूषणकारी उद्योगों का विस्तार करने की अनुज्ञा नहीं होगी:<br><br>जब तक कि इस अधिसूचना में विनिर्दिष्ट न हो, पारिस्थितिकी संवेदी जोन में फरवरी, 2016 में केंद्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी दिशानिर्देशों में किए गए उद्योगों के वर्गीकरण के अनुसार केवल गैर-प्रदूषणकारी उद्योगों की स्थापना होगी। इसके अतिरिक्त, गैर-प्रदूषणकारी कुटीर उद्योगों को प्रोत्साहन दिया जाएगा।                                                                                                                                                                                        |
| 3.                              | बड़ी जल विद्युत परियोजनाओं की स्थापना।                                       | लागू विधियों के अनुसार प्रतिषिद्ध (अन्यथा उपबंधित के सिवाय) होंगे।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 4.                              | किसी परिसंकटमय पदार्थ का प्रयोग या उत्पादन या प्रसंस्करण।                    | लागू विधियों के अनुसार प्रतिषिद्ध (अन्यथा उपबंधित के सिवाय) होंगे।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5.                              | प्राकृतिक जल निकायों या भूमि क्षेत्र में अनुपचारित बहिस्त्रावों का निस्सारण। | लागू विधियों के अनुसार प्रतिषिद्ध (अन्यथा उपबंधित के सिवाय) होंगे।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 6.                              | नई आरा मिलों और काष्ठ आधारित उद्योगों की स्थापना।                            | पारिस्थितिकी संवेदी जोन में नई आरा मिलों की स्थापना और विद्यमान आरा मिलों का विस्तार अनुज्ञात नहीं होगा।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 7.                              | जलावन लकड़ी का वाणिज्यिक उपयोग।                                              | लागू विधियों के अनुसार प्रतिषिद्ध (अन्यथा उपबंधित के सिवाय) होंगे।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 8.                              | ईंट भट्टों की स्थापना।                                                       | लागू विधियों के अनुसार प्रतिषिद्ध (अन्यथा उपबंधित के सिवाय) होंगे।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| क्र. सं.<br>(1)               | क्रियाकलाप<br>(2)                                                                                                           | टिप्पणी<br>(3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b>ख. विनियमित क्रियाकलाप</b> |                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 9.                            | होटलों और रिजॉर्टों की वाणिज्यिक स्थापना।                                                                                   | <p>पारिस्थितिकी पर्यटन क्रियाकलापों हेतु लघु अस्थायी संरचनाओं के निर्माण के सिवाय, संरक्षित क्षेत्र की सीमा से एक किलोमीटर के भीतर या पारिस्थितिकी संवेदी जोन की सीमा तक, इनमें जो भी अधिक निकट हो, नए वाणिज्यिक होटलों और रिजॉर्टों की स्थापना अनुज्ञात नहीं होगी:</p> <p>परंतु, संरक्षित क्षेत्र की सीमा से एक किलोमीटर बाहर या पारिस्थितिकी संवेदी जोन की सीमा तक, इनमें जो भी अधिक निकट हो, सभी नए पर्यटन क्रियाकलाप करने या विद्यमान क्रियाकलापों का विस्तार पर्यटन महायोजना और लागू दिशानिर्देशों के अनुसार होगा।</p>                                                                                                                                                                                       |
| 10.                           | संनिर्माण क्रियाकलाप।                                                                                                       | <p>(क) संरक्षित क्षेत्र की सीमा से एक किलोमीटर के भीतर या पारिस्थितिकी संवेदी जोन की सीमा तक, इनमें जो भी अधिक निकट हो, किसी भी नये वाणिज्यिक संनिर्माण की अनुज्ञा नहीं होगी:</p> <p>परंतु स्थानीय लोगों को अपनी आवास सम्बन्धी निम्नलिखित आवश्यकताओं को पूरा करने के लिए, पैरा 3 के उप पैरा) 1 (में सूचीबद्ध क्रियाकलापों सहित अपने प्रयोग के लिए, अपनी भूमि में भवन उप-विधियों के अनुसार, संनिर्माण करने की अनुज्ञा होगी।</p> <p>परन्तु गैर-प्रदूषणकारी लघु उद्योगों से संबंधित संनिर्माण क्रियाकलाप लागू नियमों और विनियमों, यदि कोई हों, के अनुसार सक्षम प्राधिकारी की पूर्व अनुमति से विनियमित किए जाएंगे और वे न्यूनतम होंगे।</p> <p>(ख) एक किलोमीटर से आगे ये आंचलिक महायोजना के अनुसार विनियमित होंगे।</p> |
| 11.                           | स्थानीय जनता द्वारा अपनायी जा रही वर्तमान कृषि और बागवानी पद्धतियों के साथ डेयरियां, दुग्ध उत्पादन, जल कृषि और मत्स्य पालन। | स्थानीय जनता के प्रयोग के लिए लागू विधियों के अधीन अनुज्ञात होंगे।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 12.                           | फर्मों, कारपोरेट, कंपनियों द्वारा बड़े पैमाने पर वाणिज्यिक पशुधन संपदा और कुक्कुट फार्मों की स्थापना।                       | स्थानीय जनता के प्रयोग के लिए लागू विधियों) अन्यथा उपबंधित के सिवाय (के अधीन अनुज्ञात होगा।                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 13.                           | गैर प्रदूषणकारी लघु उद्योग।                                                                                                 | फरवरी, 2016 में केन्द्रीय प्रदूषण नियंत्रण बोर्ड द्वारा जारी उद्योगों के वर्गीकरण के अनुसार गैर-प्रदूषणकारी उद्योगों तथा पारिस्थितिकी संवेदी जोन से देशी सामग्रियों से उत्पाद बनाने वाले अपरिसंकटमय लघु और सेवा उद्योगों, कृषि, पुष्प कृषि, बागवानी या कृषि आधारित उद्योगों की स्थापना सक्षम प्राधिकारी द्वारा अनुज्ञात होगी।                                                                                                                                                                                                                                                                                                                                                                                     |

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| क्र. सं.<br>(1) | क्रियाकलाप<br>(2)                                                                                                                                       | टिप्पणी<br>(3)                                                                                                                                                                                                                                                         |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14.             | वृक्षों की कटाई।                                                                                                                                        | (क) राज्य सरकार के सक्षम प्राधिकारी की पूर्व अनुमति के बिना वन या सरकारी या राजस्व या निजी भूमि पर वृक्षों की कटाई की अनुज्ञा नहीं होगी।<br>(ख) वृक्षों की कटाई केंद्रीय या संबंधित राज्य के अधिनियमों और उनके अधीन बनाए गए नियमों के उपबंधों के अनुसार विनियमित होगी। |
| 15.             | वन उत्पादों या गैर काष्ठ वन उत्पादों का संग्रह।                                                                                                         | लागू विधियों के अधीन विनियमित होंगे।                                                                                                                                                                                                                                   |
| 16.             | विद्युत और संचार टॉवर लगाने, तार-बिछाने तथा अन्य बुनियादी ढांचे की व्यवस्था।                                                                            | लागू विधियों के अधीन विनियमित होगा ( भूमिगत केबल बिछाने को बढ़ावा दिया जाएगा)।                                                                                                                                                                                         |
| 17.             | नागरिक सुविधाओं सहित बुनियादी ढांचे की व्यवस्था।                                                                                                        | यह व्यवस्था लागू विधियों, नियमों, विनियमों और मौजूदा दिशानिर्देशों के अनुसार उपशमन उपायों के साथ की जाएगी।                                                                                                                                                             |
| 18.             | विद्यमान सड़कों को चौड़ा करना, उन्हें सुदृढ़ बनाना और नई सड़कों का निर्माण करना।                                                                        | यह व्यवस्था लागू विधियों, नियमों, विनियमों और मौजूदा दिशानिर्देशों के अनुसार उपशमन उपायों के साथ की जाएगी।                                                                                                                                                             |
| 19.             | पर्यटन से संबंधित अन्य क्रियाकलाप जैसे कि पारिस्थितिकी संवेदी जोन क्षेत्र के ऊपर से गर्म वायु के गुब्बारे, हेलीकाप्टर, ड्रोन, माइक्रोलाइट्स उड़ाना आदि। | लागू विधियों के अधीन विनियमित होंगे।                                                                                                                                                                                                                                   |
| 20.             | पर्वतीय ढलानों और नदी तटों का संरक्षण।                                                                                                                  | लागू विधियों के अधीन विनियमित होंगे।                                                                                                                                                                                                                                   |
| 21.             | रात्रि में सड़क यातायात का संचलन।                                                                                                                       | लागू विधियों के अधीन वाणिज्यिक प्रयोजन के लिए विनियमित होगा।                                                                                                                                                                                                           |
| 22.             | प्राकृतिक जल निकायों या भू क्षेत्र में उपचारित अपशिष्ट जल या बहिर्वाह का निस्सारण।                                                                      | जल निकायों में उपचारित अपशिष्ट जल/बहिर्वाह के निस्सारण से बचा जाएगा। उपचारित अपशिष्ट जल के पुनर्चक्रण और पुनः उपयोग के प्रयास किए जाएंगे अन्यथा उपचारित अपशिष्ट जल या बहिर्वाह का निस्सारण लागू विधियों के अनुसार विनियमित किया जाएगा।                                 |
| 23.             | सतही और भूजल का वाणिज्यिक प्रयोग एवं निष्कर्षण।                                                                                                         | लागू विधियों के अधीन विनियमित होंगे।                                                                                                                                                                                                                                   |
| 24.             | कृषि या अन्य उपयोग के लिए खुले कुएं, बोर कुएं आदि का निर्माण।                                                                                           | समुचित प्राधिकारी द्वारा विनियमित किया जाएगा तथा क्रियाकलाप की सख्त निगरानी की जाएगी।                                                                                                                                                                                  |
| 25.             | प्लास्टिक के थैलों का प्रयोग।                                                                                                                           | लागू विधियों के अधीन विनियमित होंगे।                                                                                                                                                                                                                                   |
| 26.             | ठोस अपशिष्ट प्रबंधन।                                                                                                                                    | लागू विधियों के अधीन विनियमित होंगे।                                                                                                                                                                                                                                   |
| 27.             | विदेशी प्रजातियों को लाना।                                                                                                                              | लागू विधियों के अधीन विनियमित होंगे।                                                                                                                                                                                                                                   |





| क्र. सं.<br>(1)               | क्रियाकलाप<br>(2)                                   | टिप्पणी<br>(3)                                           |
|-------------------------------|-----------------------------------------------------|----------------------------------------------------------|
| 28.                           | वाणिज्यिक संकेत बोर्ड और होर्डिंग का प्रयोग।        | लागू विधियों के अधीन विनियमित होंगे।                     |
| 29.                           | पारिस्थितिकी पर्यटन।                                | लागू विधियों के अधीन विनियमित होंगे।                     |
| <b>ग. संवर्धित क्रियाकलाप</b> |                                                     |                                                          |
| 30.                           | वर्षा जल संचय।                                      | सक्रिय रूप से बढ़ावा दिया जाएगा।                         |
| 31.                           | जैविक खेती।                                         | सक्रिय रूप से बढ़ावा दिया जाएगा।                         |
| 32.                           | सभी गतिविधियों के लिए हरित प्रौद्योगिकी का अंगीकरण। | सक्रिय रूप से बढ़ावा दिया जाएगा।                         |
| 33.                           | ग्रामीण कारीगरी सहित कुटीर उद्योग।                  | सक्रिय रूप से बढ़ावा दिया जाएगा।                         |
| 34.                           | नवीकरणीय ऊर्जा और ईंधन का प्रयोग।                   | बायोगैस, सौर प्रकाश इत्यादि को सक्रिय बढ़ावा दिया जाएगा। |
| 35.                           | कृषि वानिकी।                                        | सक्रिय रूप से बढ़ावा दिया जाएगा।                         |
| 36.                           | बागान लगाना और औषधीय पौधों का रोपण।                 | सक्रिय रूप से बढ़ावा दिया जाएगा।                         |
| 37.                           | पारिस्थितिकी अनुकूल यातायात का प्रयोग।              | सक्रिय रूप से बढ़ावा दिया जाएगा।                         |
| 38.                           | कौशल विकास।                                         | सक्रिय रूप से बढ़ावा दिया जाएगा।                         |
| 39.                           | अवक्रमित भूमि/वनो/ पर्यावासों की बहाली।             | सक्रिय रूप से बढ़ावा दिया जाएगा।                         |
| 40.                           | पर्यावरण के प्रति जागरूकता।                         | सक्रिय रूप से बढ़ावा दिया जाएगा।                         |

**5. मानीटरी समिति .-** केंद्रीय सरकार, पर्यावरण (संरक्षण) अधिनियम, द्वारा प्रदत्त शक्तियों का प्रयोग करते हुए, पारिस्थितिकी संवेदी जोन की प्रभावी मानीटरी के लिए सम्मिलित मानीटरी समिति का गठन करती है जो निम्नलिखित से मिलकर बनेगी:-

| क्र. सं. | मानीटरी समिति का गठन                                                                                                             | पद             |
|----------|----------------------------------------------------------------------------------------------------------------------------------|----------------|
| (i)      | आयुक्त, उत्तरी छोटानागपुर संभाग, हजारीबाग                                                                                        | अध्यक्ष, पदेन; |
| (ii)     | राज्य प्रदूषण नियंत्रण बोर्ड का प्रतिनिधि                                                                                        | सदस्य;         |
| (iii)    | गैर-सरकारी संगठनों का एक प्रतिनिधि, विरासत संरक्षण सहित पर्यावरण के क्षेत्र में सक्रिय जिसे राज्य सरकार द्वारा नामित किया जायेगा | सदस्य;         |
| (iv)     | झारखण्ड के वन और पर्यावरण विभाग द्वारा नामनिर्दिष्ट प्रतिनिधि                                                                    | सदस्य;         |
| (v)      | राज्य सरकार द्वारा नामनिर्दिष्ट जैव विविधता का एक विशेषज्ञ                                                                       | सदस्य ;        |
| (vi)     | राज्य सरकार द्वारा नामनिर्दिष्ट पारिस्थितिकी एवं पर्यावरण क्षेत्र का एक विशेषज्ञ                                                 | सदस्य;         |
| (vii)    | संबंधित क्षेत्रीय प्रभागीय वन अधिकारी                                                                                            | सदस्य;         |
| (viii)   | संरक्षित क्षेत्र के प्रभागीय वन अधिकारी-प्रभारी                                                                                  | सदस्य सचिव।    |

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**6. निर्देश-निबंधन.-** (1) निगरानी समिति इस अधिसूचना के उपबंधों के अनुपालन की निगरानी करेगी।

(2) निगरानी समिति का कार्यकाल तीन वर्ष तक या राज्य सरकार द्वारा नई समिति का पुनर्गठन किए जाने तक होगा और इसके बाद निगरानी समिति राज्य सरकार द्वारा गठित की जाएगी।

(3) पारिस्थितिकी संवेदी जोन में भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना सं. का. आ. 1533 (अ) तारीख 14 सितंबर, 2006 की अनुसूची में के अधीन सम्मिलित क्रियाकलापों और इस अधिसूचना की सारणी के पैरा 4 के स्तंभ (3) के अधीन प्रतिषिद्ध गतिविधियों के सिवाय आने वाले ऐसे क्रियाकलापों की दशा में वास्तविक विनिर्दिष्ट स्थलीय दशाओं पर आधारित मानीटरी समिति द्वारा संवीक्षा की जाएगी और उक्त अधिसूचना के उपबंधों के अधीन पूर्व पर्यावरण निकासी के लिए केन्द्रीय सरकार के पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय को विनिर्दिष्ट की जाएगी।

(4) इस अधिसूचना के पैरा 4 के अधीन यथा विनिर्दिष्ट प्रतिषिद्ध क्रियाकलापों के सिवाय, भारत सरकार के तत्कालीन पर्यावरण और वन मंत्रालय की अधिसूचना संख्यांक का.आ. 1533(अ) तारीख 14 सितंबर, 2006 की अधिसूचना के अनुसूची के अधीन ऐसे क्रियाकलापों, जिन्हें सम्मिलित नहीं किया गया है, परंतु पारिस्थितिकी संवेदी जोन में आते हैं, ऐसे क्रियाकलापों की वास्तविक विनिर्दिष्ट स्थलीय दशाओं पर आधारित मानीटरी समिति द्वारा संवीक्षा की जाएगी और उसे संबद्ध विनियामक प्राधिकरणों को निर्दिष्ट किया जाएगा।

(5) मानीटरी समिति का सदस्य-सचिव या संबद्ध उप-आयुक्त ऐसे व्यक्ति के विरुद्ध, जो इस अधिसूचना के किसी उपबंध का उल्लंघन करता है, पर्यावरण संरक्षण अधिनियम, 1986 की धारा 19 (1986 का 29) के अधीन परिवाद फाइल करने के लिए सक्षम होगा।

(6) मानीटरी समिति मुद्दों के आधार पर अपेक्षाओं पर निर्भर रहने हुए संबद्ध विभागों के प्रतिनिधियों या विशेषज्ञों, औद्योगिक संगमों या संबद्ध पणधारियों के प्रतिनिधियों को अपने विचार-विमर्श में सहायता के लिए आमंत्रित कर सकेगी।

(7) मानीटरी समिति प्रत्येक वर्ष की 31 मार्च तक की अपनी वार्षिक कार्रवाई रिपोर्ट राज्य के मुख्य वन्यजीव बोर्डन को **उपाबंध V** में उपबंधित रूप विधान के अनुसार उक्त वर्ष के 30 जून तक प्रस्तुत करेगी।

(8) केन्द्रीय सरकार का पर्यावरण, वन और जलवायु परिवर्तन मंत्रालय मानीटरी समिति को अपने कृत्यों के प्रभावी निर्वहन के लिए समय-समय पर ऐसे निदेश दे सकेगा, जो वह ठीक समझे।

**7. अतिरिक्त उपाय.-** इस अधिसूचना के उपबंधों को प्रभावी बनाने के लिए केंद्रीय सरकार और राज्य सरकार, अतिरिक्त उपाय, यदि कोई हों, विनिर्दिष्ट कर सकेगी।

**8. उच्चतम न्यायालय, आदि के आदेश.-** इस अधिसूचना के उपबंध भारत के माननीय उच्चतम न्यायालय या उच्च न्यायालय या राष्ट्रीय हरित अधिकरण द्वारा पारित किए गए या पारित किए जाने वाले आदेश, यदि कोई हो, के अधीन होंगे।

[फा. सं. 25/67/2015-ई एस जेड-आर ई]

डॉ. टी चांदनी, वैज्ञानिक 'जी'



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## उपाबंध-1

**झारखण्ड राज्य में कोडरमा वन्यजीव अभयारण्य और इसके पारिस्थितिकी संवेदी जोन की सीमा का विवरण**

**उत्तर:-** बिहार (बिहार का नवादा जिला) और झारखण्ड (झारखण्ड का कोडरमा जिला) के साथ अंतरराज्यीय सीमा।

**पूर्व:-** जामतारा, धुबा, नलवा, गोलगो, रुपनडीह, मधुवन और डोमचांच का पूर्वी भाग, तेतरियाडीह और नेरपुर राजस्व ग्रामों का दक्षिण और दक्षिणी पूर्वी भाग।

**दक्षिण:-** सलयडीह का दक्षिण और दक्षिणी पूर्वी भाग, झरीटांड का दक्षिणी भाग और मलकोको का दक्षिण और दक्षिणी-पश्चिम भाग और इसके बाद कोडरमा-डोमचांच सड़क के साथ सीमा लोकाई ग्राम तक।

**पश्चिम:-** कोडरमा नगर पश्चिमी भाग में बरोहरिया के बाद, बेलाटांड का दक्षिणी भाग, हथवाधरन, मेघातरी, विशुनपुर, झरकी और पिछली राजस्व ग्रामों की पश्चिमी सीमा।



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प्रमुख अवस्थानों के अक्षांश और देशांतर के साथ भारतीय सर्वेक्षण (एस ओ आई) की टोपोशीट पर कोडरमा वन्यजीव अभयारण्य के पारिस्थितिकी संवेदी का मानचित्र



## उपाबंध-III

## सारणी क: कोडरमा वन्यजीव अभयारण्य के प्रमुख अवस्थानों के भू-निर्देशांक

| बिंदु | अक्षांश       | देशांतर        |
|-------|---------------|----------------|
| पी-1  | 24° 30' 7" उ  | 85° 30' 19" पू |
| पी-2  | 24° 31' 22" उ | 85° 31' 47" पू |
| पी-3  | 24° 33' 34" उ | 85° 33' 1" पू  |
| पी-4  | 24° 34' 33" उ | 85° 34' 15" पू |
| पी-5  | 24° 35' 42" उ | 85° 36' 4" पू  |
| पी-6  | 24° 34' 34" उ | 85° 38' 57" पू |
| पी-7  | 24° 32' 13" उ | 85° 39' 41" पू |
| पी-8  | 24° 30' 4" उ  | 85° 39' 49" पू |
| पी-9  | 24° 29' 2" उ  | 85° 39' 35" पू |
| पी-10 | 24° 28' 30" उ | 85° 38' 59" पू |
| पी-11 | 24° 28' 12" उ | 85° 37' 46" पू |
| पी-12 | 24° 28' 58" उ | 85° 37' 4" पू  |
| पी-13 | 24° 28' 41" उ | 85° 35' 56" पू |
| पी-14 | 24° 27' 51" उ | 85° 33' 54" पू |
| पी-15 | 24° 27' 38" उ | 85° 32' 27" पू |
| पी-16 | 24° 29' 28" उ | 85° 31' 32" पू |
| पी-17 | 24° 29' 40" उ | 85° 31' 28" पू |
| पी-18 | 24° 29' 45" उ | 85° 31' 26" पू |
| पी-19 | 24° 29' 49" उ | 85° 31' 22" पू |
| पी-20 | 24° 29' 60" उ | 85° 30' 40" पू |

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## सारणी छ: पारिस्थितिकी संवेदी जोन के प्रमुख अवस्थानों के भू-निर्देशांक

| बिंदु | अक्षांश (उ)   | देशांतर (पू)   |
|-------|---------------|----------------|
| पी-1  | 24° 35' 59" उ | 85° 34' 57" पू |
| पी-2  | 24° 35' 16" उ | 85° 36' 52" पू |
| पी-3  | 24° 34' 42" उ | 85° 38' 18" पू |
| पी-4  | 24° 34' 27" उ | 85° 40' 54" पू |
| पी-5  | 24° 33' 47" उ | 85° 42' 7" पू  |
| पी-6  | 24° 31' 44" उ | 85° 41' 53" पू |
| पी-7  | 24° 29' 40" उ | 85° 42' 22" पू |
| पी-8  | 24° 29' 29" उ | 85° 41' 23" पू |
| पी-9  | 24° 28' 19" उ | 85° 40' 58" पू |
| पी-10 | 24° 28' 7" उ  | 85° 40' 28" पू |
| पी-11 | 24° 28' 3" उ  | 85° 39' 17" पू |
| पी-12 | 24° 27' 11" उ | 85° 38' 8" पू  |
| पी-13 | 24° 27' 54" उ | 85° 37' 23" पू |
| पी-14 | 24° 28' 31" उ | 85° 36' 29" पू |
| पी-15 | 24° 28' 49" उ | 85° 36' 10" पू |
| पी-16 | 24° 27' 41" उ | 85° 34' 20" पू |
| पी-17 | 24° 27' 6" उ  | 85° 33' 30" पू |
| पी-18 | 24° 27' 45" उ | 85° 32' 10" पू |
| पी-19 | 24° 28' 9" उ  | 85° 31' 20" पू |
| पी-20 | 24° 28' 20" उ | 85° 29' 50" पू |
| पी-21 | 24° 28' 54" उ | 85° 28' 29" पू |
| पी-22 | 24° 30' 34" उ | 85° 28' 43" पू |
| पी-23 | 24° 31' 14" उ | 85° 29' 45" पू |
| पी-24 | 24° 32' 19" उ | 85° 29' 12" पू |
| पी-25 | 24° 31' 43" उ | 85° 30' 39" पू |
| पी-26 | 24° 32' 35" उ | 85° 32' 41" पू |
| पी-27 | 24° 33' 31" उ | 85° 33' 47" पू |
| पी-28 | 24° 35' 16" उ | 85° 34' 1" पू  |



## उपाबंध-IV

## सारणी-क

कोडरमा वन्यजीव अभयारण्य के पारिस्थितिकी संवेदी जोन के अंतर्गत आने वाले ग्राम

| क्र. सं. | ग्राम के नाम       | प्रशासनिक खण्ड | जीपीएस भू-निर्देशांक  | भारत की जनगणना, 2011 के अनुसार शहर / ग्राम कोड |
|----------|--------------------|----------------|-----------------------|------------------------------------------------|
| (1)      | (2)                | (3)            | (4)                   | (5)                                            |
| 1        | पसिया              | डोमचांच        | 24.5636 उ, 85.6603 पू | 349765                                         |
| 2        | चाक                | डोमचांच        | 24.5618 उ, 85.6696 पू | 349766                                         |
| 3        | जामतारा            | डोमचांच        | 24.5752 उ, 85.6668 पू | 349763                                         |
| 4        | धुवा               | डोमचांच        | 24.5702 उ, 85.6672 पू | 349764                                         |
| 5        | नलवा               | डोमचांच        | 24.5592 उ, 85.6881 पू | 349767                                         |
| 6        | हरिया              | डोमचांच        | 24.5504 उ, 85.6803 पू | 349768                                         |
| 7        | चिल्लांगी/धरहाकोला | डोमचांच        | 24.5509 उ, 85.6684 पू | 349769                                         |
| 8        | समसिहरैया          | डोमचांच        | 24.5459 उ, 85.6611 पू | 349770                                         |
| 9        | जमुनियाटांड        | डोमचांच        | 24.5359 उ, 85.6724 पू | 349771                                         |
| 10       | कुसहना             | डोमचांच        | 24.5234 उ, 85.6650 पू | 349772                                         |
| 11       | गोलगो              | डोमचांच        | 24.5245 उ, 85.6904 पू | 349774                                         |
| 12       | मधुवन              | डोमचांच        | 24.4992 उ, 85.6983 पू | 349784                                         |
| 13       | रुपनडीह            | डोमचांच        | 24.5030 उ, 85.6890 पू | 349785                                         |
| 14       | तेतरियाडीह         | डोमचांच        | 24.4719 उ, 85.6705 पू | 349787                                         |
| 15       | नेरपुर             | डोमचांच        | 24.4719 उ, 85.6705 पू | 349788                                         |
| 16       | डोमचांच            | डोमचांच        | 24.4923 उ, 85.6807 पू | 349865                                         |
| 17       | लगंरापारस          | डोमचांच        | 24.4996 उ, 85.6707 पू | 349786                                         |
| 18       | महकुन्दी           | डोमचांच        | 24.5130 उ, 85.6719 पू | 349773                                         |
| 19       | पिच्चली            | कोडरमा         | 24.5332 उ, 85.4930 पू | 349640                                         |
| 20       | बेलाटांड           | कोडरमा         | 24.4804 उ, 85.4815 पू | 349646                                         |
| 21       | जरगा               | कोडरमा         | 24.5002 उ, 85.4909 पू | 349648                                         |
| 22       | बरोहरिया           | कोडरमा         | 24.4781 उ, 85.4953 पू | 349649                                         |
| 23       | झरीटांड            | कोडरमा         | 24.4623 उ, 85.6419 पू | 349704                                         |
| 24       | सलयडीह             | कोडरमा         | 24.4703 उ, 85.6461 पू | 349705                                         |
| 25       | गेदवाडीह/विशुनपुर  | कोडरमा         | 24.4725 उ, 85.6596 पू | 349729                                         |
| 26       | झरकी/टटगेन         | कोडरमा         | 24.5261 उ, 85.5047 पू | 349639                                         |
| 27       | ढोडरापानिया        | कोडरमा         | 24.4886 उ, 85.5020 पू | 349650                                         |
| 28       | मेघातरी            | कोडरमा         | 24.4898 उ, 85.4803 पू | 349645                                         |





|    |         |        |                       |        |
|----|---------|--------|-----------------------|--------|
| 29 | हथवाधरन | कोडरमा | 24.4847 उ, 85.4863 पू | 349647 |
| 30 | करहरिया | कोडरमा | 24.4813 उ, 85.6588 पू | 349728 |
| 31 | मलकोको  | कोडरमा | 24.4609 उ, 85.6301 पू | 349703 |

## सारणी - ख

## भू-निर्देशांकों के साथ संलग्न ग्रामों की सूची

| पारिस्थितिकी संवेदी जोन के पहचान करने के लिए कोडरमा वन्यजीव अभयारण्य के संलग्न ग्रामों का विवरण |                                          |                |                       |                                                |
|-------------------------------------------------------------------------------------------------|------------------------------------------|----------------|-----------------------|------------------------------------------------|
| क्र. सं.                                                                                        | ग्राम के नाम                             | प्रशासनिक खण्ड | जीपीएस भू-निर्देशांक  | भारत की जनगणना, 2011 के अनुसार शहर / ग्राम कोड |
| (1)                                                                                             | (2)                                      | (3)            | (4)                   | (5)                                            |
| 1                                                                                               | कोडरमा पूराना (फुलवरीया एवं डुमरीयाटांड) | कोडरमा         | 24.4808 उ, 85.5827 पू | 349695                                         |
| 2                                                                                               | चितरपुर                                  | कोडरमा         | 24.4796 उ, 85.6505 पू | 349706                                         |
| 3                                                                                               | महुआटांड                                 | कोडरमा         | 24.4709 उ, 85.5676 पू | 349714                                         |
| 4                                                                                               | लोकाई                                    | कोडरमा         | 24.4749 उ, 85.6207 पू | 349708                                         |
| 5                                                                                               | बहेरवाटांड                               | कोडरमा         |                       | 349709                                         |
| 6                                                                                               | बागीटांड                                 | कोडरमा         | 24.5290 उ, 85.5997 पू | 349709                                         |
| 7                                                                                               | छतरबर                                    | कोडरमा         | 24.4615 उ, 85.5573 पू | 349716                                         |
| 8                                                                                               | चिल्लीटांड                               | कोडरमा         | 24.4631 उ, 85.5472 पू | 349717                                         |
| 9                                                                                               | सिमरातरी                                 | कोडरमा         | 24.4814 उ, 85.5461 पू | 349719                                         |
| 10                                                                                              | दुबराजपुर                                | कोडरमा         | 24.4724 उ, 85.5387 पू | 349720                                         |
| 11                                                                                              | रंगीनियांटांड                            | कोडरमा         | 24.4825 उ, 85.5338 पू | 349721                                         |
| 12                                                                                              | जंगल सरकार                               | कोडरमा         | 24.4763 उ, 85.5530 पू | 349718                                         |
| 13                                                                                              | करहरिया                                  | कोडरमा         | 24.5860 उ, 85.5817 पू | 349725                                         |
| 14                                                                                              | मेघातरी                                  | कोडरमा         | 24.5768 उ, 85.5741 पू | 349724                                         |
| 15                                                                                              | विशुनटिकर                                | कोडरमा         | 24.5757 उ, 85.5847 पू | 349726                                         |
| 16                                                                                              | विशुनपुर                                 | कोडरमा         | 24.5189 उ, 85.5187 पू | 349722                                         |
| 17                                                                                              | सपहा                                     | कोडरमा         | 24.5187 उ, 85.5316 पू | 349723                                         |
| 18                                                                                              | इन्दरवा                                  | कोडरमा         | 24.4738 उ, 85.6361 पू | 349707                                         |

9



## उपाबंध-V

## की गई कार्रवाई की रिपोर्ट का प्रपत्र:

1. बैठकों की संख्या और तारीख ।
2. बैठकों का कार्यवृत्त : (कृपया मुख्य उल्लेखनीय बिंदुओं का वर्णन करें। बैठक के कार्यवृत्त को एक पृथक उपाबंध में प्रस्तुत करें) ।
3. पर्यटन महायोजना सहित आंचलिक महायोजना की तैयारी की स्थिति ।
4. भू-अभिलेखों की स्पष्ट त्रुटियों के सुधार के लिए निबटाए गए मामलों का सार(पारिस्थितिकी संवेदी जोन वार) । विवरण उपाबंध के रूप में संलग्न करें।
5. पर्यावरण प्रभाव मूल्यांकन अधिसूचना, 2006 के अधीन आने वाली गतिविधियों से संबंधित संवीक्षा किए गए मामलों का सार । (विवरण एक पृथक उपाबंध के रूप में संलग्न करें) ।
6. पर्यावरण प्रभाव मूल्यांकन अधिसूचना, 2006 के अधीन न आने वाली गतिविधियों से संबंधित संवीक्षा किए गए मामलों का सार । (विवरण एक पृथक उपाबंध के रूप में संलग्न करें) ।
7. पर्यावरण ( संरक्षण ) अधिनियम, 1986 की धारा 19 के अधीन दर्ज की गई शिकायतों का सार ।
8. कोई अन्य महत्वपूर्ण मामला ।

## MINISTRY OF ENVIRONMENT FOREST AND CLIMATE CHANGE

## NOTIFICATION

New Delhi, the 9th August, 2019

**S.O. 2895(E).**—WHEREAS, a draft notification was published in the Gazette of India, Extraordinary, *vide* notification of the Government of India in the Ministry of Environment, Forest and Climate Change number S.O. 774 (E), dated the 21<sup>st</sup> February, 2018, inviting objections and suggestions from all persons likely to be affected thereby within the 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 draft notification were made available to the public on the 22<sup>nd</sup> February, 2018;

**AND WHEREAS**, objections and suggestions were received from persons and stakeholders in response to the aforesaid draft notification were duly considered by the Central Government;

**AND WHEREAS**, Koderma Wildlife Sanctuary lies between latitudes 24°26' to 24°36' North and longitudes 85°28' to 85°42' East in Koderma District in the state of Jharkhand; the Sanctuary was notified under section 18 of the Wildlife (Protection) Act, 1972 by the Bihar Government *vide* its notification no. S.O. 148, dated 25<sup>th</sup> January, 1985 and the Sanctuary extends over an area of 150.628 square kilometers of reserve forests;

**AND WHEREAS**, National Highway - 31 bisects the aforesaid Sanctuary into two halves and it is located in the Deccan Plateau province of Chotanagpur Plateau (SD) bio-geographic zone; the habitat is shared by cheetals, wild boars, sloth bears, jackals, porcupines, hyaenas, hares, etc and the elephants of Palamu, Chatra and Giridih are known to move through this Sanctuary; the important bird species which can be frequently spotted are serpent eagle, paradise fly catcher, kingfisher, bee-eater, swift, different types of babbler, black drongo, wood pecker, lapwing, peafowl, pond heron, egret, etc; sometimes, carnivores like wolves and leopards are also spotted; wild elephants move in and around this Protected Area and, sometimes, migrate up to Giridih, Chatra and Palamu; Koderma Wildlife Sanctuary lies in the catchments of Tilaiya, Harhad, Chanda, Hurrahi, Piparadah and Piparakon river systems; the forests of this protected area intercept rainfall and help recharge ground water aquifers and the forests also protect rivers and streams against silting by minimising soil erosion;

**AND WHEREAS**, the Koderma Wildlife Sanctuary has the richest deposits of mica in the country; the protected area is home to diverse types of forest, i.e. 5B/C1 - Northern Tropical Dry Peninsular Sal Forest, 5B/C2 Northern Tropical



Dry Mixed Deciduous Forest, 5/DS Dry Deciduous Scrub Forest and (5/E2) Boswellia Forest as per Champion and Seth's classification and the forests of Koderma Sanctuary are an excellent habitat for signification populations of 14 species of mammals, more than 35 species of birds and 9 species of reptiles;

**AND WHEREAS**, it is necessary to conserve and protect the area, the extent and boundaries of which are specified in paragraph 1 around the Koderma Wildlife Sanctuary as Eco-sensitive Zone from ecological, environmental and biodiversity point of view and to prohibit industries or class of industries and their operations and processes in the said Eco-sensitive Zone;

**NOW, THEREFORE**, in exercise of the powers conferred by sub-section (1) and clauses (v) and (xiv) of sub-section (2) and sub-section (3) of section 3 of the Environment (Protection) Act 1986 (29 of 1986) (hereafter in this notification referred to as the Environment Act) read with sub-rule (3) of rule 5 of the Environment (Protection) Rules, 1986, the Central Government hereby notifies an area to an extent varying from zero to 5 kilometres around the boundary of Koderma Wildlife Sanctuary, in Koderma District in the State of Jharkhand as the Koderma Wildlife Sanctuary Eco-sensitive Zone (hereafter in this notification referred to as the Eco-sensitive Zone), details of which are as under, namely: -

1. **Extent and boundaries of Eco-sensitive Zone.** - (1) The Eco-sensitive Zone shall be to an extent of zero (due to Inter-State boundary) to 5 kilometres around the boundary of Koderma Wildlife Sanctuary and the area of the Eco-sensitive Zone is 133.247 square kilometres.
  - (2) The boundary description of Koderma Wildlife Sanctuary and its Eco-sensitive Zone is appended as **Annexure-I**.
  - (3) The maps of the Koderma Wildlife Sanctuary demarcating Eco-sensitive Zone along with boundary details and latitudes and longitudes are appended as **Annexure-II A** and **Annexure-II B**.
  - (4) List of geo-coordinates of the boundary of Koderma Wildlife Sanctuary and Eco-sensitive Zone are given in Table A and Table B of **Annexure-III**.
  - (5) The list of villages falling in the Eco-sensitive Zone along with their geo co-ordinates at prominent points is appended as Table A and Table B of **Annexure-IV**.
2. **Zonal Master Plan for Eco-sensitive Zone.**- (1) The State Government shall, for the purposes of the Eco-sensitive Zone prepare a Zonal Master Plan within a period of two years from the date of publication of this notification in the Official Gazette, in consultation with local people and adhering to the stipulations given in this notification for approval of the competent authority in the State.
  - (2) The Zonal Master Plan for the Eco-sensitive Zone shall be prepared by the State Government in such manner as is specified in this notification and also in consonance with the relevant Central and State laws and the guidelines issued by the Central Government, if any.
  - (3) The Zonal Master Plan shall be prepared in consultation with the following Departments of the State Government, for integrating the ecological and environmental considerations into the said plan:-
    - (i) Environment;
    - (ii) Forest and Wildlife;
    - (iii) Agriculture;
    - (iv) Revenue;
    - (v) Urban Development;
    - (vi) Tourism;
    - (vii) Rural Development;
    - (viii) Irrigation and Flood Control;
    - (ix) Municipal;
    - (x) Panchayati Raj;
    - (xi) Jharkhand State Pollution Control Board; and
    - (xii) Public Works Department.
  - (4) The Zonal Master Plan shall not impose any restriction on the approved existing land use, infrastructure and activities, unless so specified in this notification and the Zonal Master Plan shall factor in improvement of all infrastructure and activities to be more efficient and eco-friendly.
  - (5) 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

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conservation, needs of local community and such other aspects of the ecology and environment that need attention.

- (6) The Zonal Master Plan shall demarcate all the existing worshipping places, villages and urban settlements, types and kinds of forests, agricultural areas, fertile lands, green area, such as, parks and like places, horticultural areas, orchards, lakes and other water bodies with supporting maps giving details of existing and proposed land use features.
  - (7) The Zonal Master Plan shall regulate development in Eco-sensitive Zone and adhere to prohibited and regulated activities listed in the Table in paragraph 4 and also ensure and promote eco-friendly development for security of local communities' livelihood.
  - (8) The Zonal Master Plan shall be co-terminus with the Regional Development Plan.
  - (9) The Zonal Master Plan so approved shall be the reference document for the Monitoring Committee for carrying out its functions of monitoring in accordance with the provisions of this notification.
3. **Measures to be taken by State Government.-** The State Government shall take the following measures for giving effect to the provisions of this notification, namely:-

- (1) **Land use.-** (a) Forests, horticulture areas, agricultural areas, parks and open spaces earmarked for recreational purposes in the Eco-sensitive Zone shall not be used or converted into areas for commercial or residential or industrial activities:

Provided that the conversion of agricultural and other lands, for the purpose other than that specified in clause (a) above, within the Eco-sensitive Zone may be permitted on the recommendation of the Monitoring Committee, and with the prior approval of the competent authority under Regional Town Planning Act and other rules and regulations of the Central Government or State Government as applicable and *vide* provisions of this notification, to meet the residential needs of the local residents and for activities such as-

- (i) widening and strengthening of existing roads and construction of new roads;
- (ii) construction and renovation of infrastructure and civic amenities;
- (iii) small scale industries not causing pollution;
- (iv) cottage industries including village industries; convenience stores and local amenities supporting eco-tourism including home stay; and
- (v) promoted activities given in paragraph 4:

Provided further that no use of tribal land shall be permitted for commercial and industrial development activities without the prior approval of the competent authority under Regional Town Planning Act and other rules and regulations of the State Government and without compliance of the provisions of article 244 of the Constitution or the law for the time being in force, including the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (2 of 2007):

Provided also that any error appearing in the land records within the Eco-sensitive Zone shall be corrected by the State Government, after obtaining the views of Monitoring Committee, once in each case and the correction of said error shall be intimated to the Central Government in the Ministry of Environment, Forest and Climate Change:

Provided also that the correction of error shall not include change of land use in any case except as provided under this sub-paragraph.

- (b) Efforts shall be made to reforest the unused or unproductive agricultural areas with afforestation and habitat restoration activities.
- (2) **Natural water bodies.-** The catchment areas of all natural springs shall be identified and plans for their conservation and rejuvenation shall be incorporated in the Zonal Master Plan and the guidelines shall be drawn up by the State Government in such a manner as to prohibit development activities at or near these areas which are detrimental to such areas.
- (3) **Tourism or eco-tourism.-** (a) All new eco-tourism activities or expansion of existing tourism activities within the Eco-sensitive Zone shall be as per the Tourism Master Plan for the Eco-sensitive Zone.
- (b) The Tourism Master Plan shall be prepared by the State Department of Tourism in consultation with State Departments of Environment and Forests.
- (c) The Tourism Master Plan shall form a component of the Zonal Master Plan.





(d) The Tourism Master Plan shall be drawn based on the study of carrying capacity of the Eco-sensitive Zone.

(e) The activities of eco-tourism shall be regulated as under, namely:-

- (i) new construction of hotels and resorts shall not be allowed within one kilometre from the boundary of the protected area or upto the extent of the Eco-sensitive Zone, whichever is nearer:

Provided that beyond the distance of one kilometre from the boundary of the protected area till the extent of the Eco-sensitive Zone, the establishment of new hotels and resorts shall be allowed only in pre-defined and designated areas for eco-tourism facilities as per Tourism Master Plan;

- (ii) all new tourism activities or expansion of existing tourism activities within the Eco-sensitive Zone shall be in accordance with the guidelines issued by the Central Government in the Ministry of Environment, Forest and Climate Change and the eco-tourism guidelines issued by the National Tiger Conservation Authority (as amended from time to time) with emphasis on eco-tourism, eco-education and eco-development;

- (iii) until the Zonal Master Plan is approved, development for tourism and expansion of existing tourism activities shall be permitted by the concerned regulatory authorities based on the actual site specific scrutiny and recommendation of the Monitoring Committee and no new hotel, resort or commercial establishment construction shall be permitted within Eco-sensitive Zone area.

(4) **Natural heritage.**- All sites of valuable natural heritage in the Eco-sensitive Zone, such as the gene pool reserve areas, rock formations, waterfalls, springs, gorges, groves, caves, points, walks, rides, cliffs, etc. shall be identified and a heritage conservation plan shall be drawn up for their preservation and conservation as a part of the Zonal Master Plan.

(5) **Man-made heritage sites.**- Buildings, structures, artefacts, areas and precincts of historical, architectural, aesthetic, and cultural significance shall be identified in the Eco-sensitive Zone and heritage conservation plan for their conservation shall be prepared as part of the Zonal Master Plan.

(6) **Noise pollution.** - Prevention and control of noise pollution in the Eco-sensitive Zone shall be carried out in accordance with the provisions of the Noise Pollution (Regulation and Control) Rules, 2000 under the Environment Act.

(7) **Air pollution.**- Prevention and control of air pollution in the Eco-sensitive Zone shall be carried out in accordance with the provisions of the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981) and the rules made thereunder.

(8) **Discharge of effluents.**- Discharge of treated effluent in Eco-sensitive Zone shall be in accordance with the provisions of the General Standards for Discharge of Environmental Pollutants covered under the Environment Act and the rules made thereunder or standards stipulated by State Government, whichever is more stringent.

(9) **Solid wastes.**- Disposal and management of solid wastes shall be as under:-

- (a) the solid waste disposal and management in the Eco-sensitive Zone shall be carried out in accordance with the Solid Waste Management Rules, 2016, published by the Government of India in the Ministry of Environment, Forest and Climate Change *vide* notification number S.O. 1357 (E), dated the 8<sup>th</sup> April, 2016; the inorganic material may be disposed in an environmental acceptable manner at site identified outside the Eco-sensitive Zone;

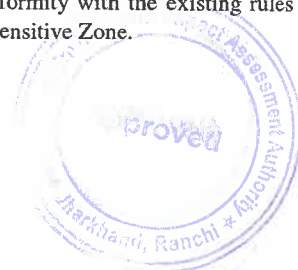
- (b) safe and Environmentally Sound Management (ESM) of solid wastes in conformity with the existing rules and regulations using identified technologies may be allowed within Eco-sensitive Zone.

(10) **Bio-medical waste.**- Bio medical waste management shall be as under:-

- (a) the bio-medical waste disposal in the Eco-sensitive Zone shall be carried out in accordance with the Bio-Medical Waste Management, Rules, 2016, published by the Government of India in the Ministry of Environment, Forest and Climate Change *vide* notification number G.S.R 343 (E), dated the 28<sup>th</sup> March, 2016.

- (b) safe and Environmentally Sound Management of bio-medical wastes in conformity with the existing rules and regulations using identified technologies may be allowed within the Eco-sensitive Zone.

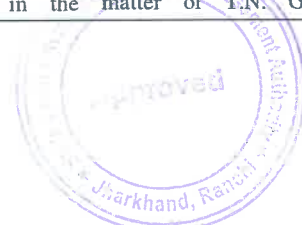
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- (11) **Plastic waste management.-** The plastic waste management in the Eco-sensitive Zone shall be carried out as per the provisions of the Plastic Waste Management Rules, 2016, published by the Government of India in the Ministry of Environment, Forest and Climate Change vide notification number G.S.R. 340(E), dated the 18<sup>th</sup> March, 2016, as amended from time to time.
- (12) **Construction and demolition waste management.-** The construction and demolition waste management in the Eco-sensitive Zone shall be carried out as per the provisions of the Construction and Demolition Waste Management Rules, 2016, published by the Government of India in the Ministry of Environment, Forest and Climate Change vide notification number G.S.R. 317(E), dated the 29<sup>th</sup> March, 2016, as amended from time to time.
- (13) **E-waste.-** The e - waste management in the Eco-sensitive Zone shall be carried out as per the provisions of the E-Waste Management Rules, 2016, published by the Government of India in the Ministry of Environment, Forest and Climate Change, as amended from time to time.
- (14) **Vehicular traffic.-** The vehicular movement of traffic shall be regulated in a habitat friendly manner and specific provisions in this regard shall be incorporated in the Zonal Master Plan and till such time as the Zonal Master plan is prepared and approved by the competent authority in the State Government, the Monitoring Committee shall monitor compliance of vehicular movement under the relevant Acts and the rules and regulations made thereunder.
- (15) **Vehicular pollution.-** Prevention and control of vehicular pollution shall be in compliance with applicable laws and efforts shall be made for use of cleaner fuels.
- (16) **Industrial units.-** (i) On or after the publication of this notification in the Official Gazette, no new polluting industries shall be permitted to be set up within the Eco-sensitive Zone.  
(ii) Only non-polluting industries shall be allowed within Eco-sensitive Zone as per the classification of Industries in the guidelines issued by the Central Pollution Control Board in February, 2016, unless so specified in this notification, and in addition, the non-polluting cottage industries shall be promoted.
- (17) **Protection of hill slopes.-** The protection of hill slopes shall be as under:-  
(a) the Zonal Master Plan shall indicate areas on hill slopes where no construction shall be permitted;  
(b) construction on existing steep hill slopes or slopes with a high degree of erosion shall not be permitted.
4. **List of activities prohibited or to be regulated within Eco-sensitive Zone.-** All activities in the Eco sensitive Zone shall be governed by the provisions of the Environment Act and the rules made there under including the Coastal Regulation Zone, 2011 and the Environmental Impact Assessment Notification, 2006 and other applicable laws including the Forest (Conservation) Act, 1980 (69 of 1980), the Indian Forest Act, 1927 (16 of 1927), the Wildlife (Protection) Act 1972 (53 of 1972), and amendments made thereto and be regulated in the manner specified in the Table below, namely:-

TABLE

| S. No.<br>(1)                   | Activity<br>(2)                                        | Description<br>(3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|---------------------------------|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>A. Prohibited Activities</b> |                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 1.                              | Commercial mining, stone quarrying and crushing units. | (a) All new and existing mining (minor and major minerals), stone quarrying and crushing units shall be prohibited with immediate effect except for meeting the domestic needs of bona fide local residents including digging of earth for construction or repair of houses and for manufacture of country tiles or bricks for housing and for personal consumption;<br>(b) The mining operations shall be carried out in accordance with the order of the Hon'ble Supreme Court dated the 4 <sup>th</sup> August, 2006 in the matter of T.N. Godavarman |



| S. No.<br>(1)                  | Activity<br>(2)                                                          | Description<br>(3)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                |                                                                          | Thirumulpad Vs. UOI in W.P.(C) No.202 of 1995 and dated the 21 <sup>st</sup> April, 2014 in the matter of Goa Foundation Vs. UOI in W.P.(C) No.435 of 2012.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 2.                             | Setting of industries causing pollution (Water, Air, Soil, Noise, etc.). | New industries and expansion of existing polluting industries in the Eco-sensitive Zone shall not be permitted:<br>Provided that non-polluting industries shall be allowed within Eco-sensitive Zone as per classification of Industries in the guidelines issued by the Central Pollution Control Board in February, 2016, unless otherwise specified in this notification and in addition the non-polluting cottage industries shall be promoted.                                                                                                                                                                                                                                                                                                                                                         |
| 3.                             | Establishment of major hydro-electric project.                           | Prohibited (except as otherwise provided) as per the applicable laws.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 4.                             | Use or production or processing of any hazardous substances.             | Prohibited (except as otherwise provided) as per the applicable laws.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 5.                             | Discharge of untreated effluents in natural water bodies or land area.   | Prohibited (except as otherwise provided) as per the applicable laws.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 6.                             | Setting up of new saw mills.                                             | New or expansion of existing saw mills shall not be permitted within the Eco-sensitive Zone.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 7.                             | Commercial use of firewood.                                              | Prohibited (except as otherwise provided) as per the applicable laws.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 8.                             | Setting up of brick kilns.                                               | Prohibited (except as otherwise provided) as per the applicable laws.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>B. Regulated Activities</b> |                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 9.                             | Commercial establishment of hotels and resorts.                          | No new commercial hotels and resorts shall be permitted within one kilometer of the boundary of the protected area or upto the extent of Eco-sensitive Zone, whichever is nearer, except for small temporary structures for eco-tourism activities:<br>Provided that, beyond one kilometer from the boundary of the protected area or upto the extent of Eco-sensitive Zone, whichever is nearer, all new tourist activities or expansion of existing activities shall be in conformity with the Tourism Master Plan and guidelines as applicable.                                                                                                                                                                                                                                                          |
| 10.                            | Construction activities.                                                 | (a) New commercial construction of any kind shall not be permitted within one kilometer from the boundary of the protected area or upto extent of the Eco-sensitive Zone, whichever is nearer:<br>Provided that, local people shall be permitted to undertake construction in their land for their use including the activities mentioned in sub-paragraph (1) of paragraph 3 as per building bye-laws to meet the residential needs of the local residents:<br>Provided further that the construction activity related to small scale industries not causing pollution shall be regulated and kept at the minimum, with the prior permission from the competent authority as per applicable rules and regulations, if any.<br>(b) Beyond one kilometer it shall be regulated as per the Zonal Master Plan. |

2



| S. No.<br>(1) | Activity<br>(2)                                                                                                                                       | Description<br>(3)                                                                                                                                                                                                                                                                                                                                                       |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11.           | Ongoing agriculture and horticulture practices by local communities along with dairies, dairy farming, aquaculture and fisheries.                     | Permitted as per the applicable laws for use of locals.                                                                                                                                                                                                                                                                                                                  |
| 12.           | Establishment of large-scale commercial livestock and poultry farms by firms, corporate and companies.                                                | Regulated (except otherwise provided) as per the applicable laws except for meeting local needs.                                                                                                                                                                                                                                                                         |
| 13.           | Small scale non polluting industries.                                                                                                                 | Non polluting industries as per classification of industries issued by the Central Pollution Control Board in February, 2016 and non-hazardous, small-scale and service industry, agriculture, floriculture, horticulture or agro-based industry producing products from indigenous materials from the Eco-sensitive Zone shall be permitted by the competent authority. |
| 14.           | Felling of trees.                                                                                                                                     | (a) There shall be no felling of trees in the forest or Government or revenue or private lands without prior permission of the competent authority in the State Government.<br>(b) The felling of trees shall be regulated in accordance with the provisions of the concerned Central or State Act and the rules made thereunder.                                        |
| 15.           | Collection of Forest Produce or Non-Timber Forest Produce.                                                                                            | Regulated as per the applicable laws.                                                                                                                                                                                                                                                                                                                                    |
| 16.           | Erection of electrical and communication towers and laying of cables and other infrastructures.                                                       | Regulated under applicable laws (underground cabling may be promoted).                                                                                                                                                                                                                                                                                                   |
| 17.           | Infrastructure including civic amenities.                                                                                                             | Shall be done by taking measures of mitigation as per the applicable laws, rules, regulations available guidelines.                                                                                                                                                                                                                                                      |
| 18.           | Widening and strengthening of existing roads and construction of new roads.                                                                           | Shall be done by taking measures of mitigation as per the applicable laws, rules, regulations available guidelines.                                                                                                                                                                                                                                                      |
| 19.           | Undertaking other activities related to tourism like flying over the Eco-sensitive Zone area by hot air balloon, helicopter, drones, microlites, etc. | Regulated as per the applicable laws.                                                                                                                                                                                                                                                                                                                                    |
| 20.           | Protection of hill slopes and river banks.                                                                                                            | Regulated as per the applicable laws.                                                                                                                                                                                                                                                                                                                                    |
| 21.           | Movement of vehicular traffic at night.                                                                                                               | Regulated for commercial purpose under applicable laws.                                                                                                                                                                                                                                                                                                                  |
| 22.           | Discharge of treated waste water or effluents in natural water bodies or land area.                                                                   | The discharge of treated waste water or effluents shall be avoided to enter into the water bodies and efforts shall be made for recycle and reuse of treated waste water; otherwise the discharge of treated waste water or effluent shall be regulated as per the applicable laws.                                                                                      |
| 23.           | Commercial extraction of surface and ground water.                                                                                                    | Regulated as per the applicable laws.                                                                                                                                                                                                                                                                                                                                    |
| 24.           | Open well, bore well, etc. for agriculture or other usage.                                                                                            | Regulated as per the applicable laws and the activity should be strictly monitored by the concerned authority.                                                                                                                                                                                                                                                           |
| 25.           | Use of polythene bags.                                                                                                                                | Regulated as per the applicable laws.                                                                                                                                                                                                                                                                                                                                    |
| 26.           | Solid waste management.                                                                                                                               | Regulated as per the applicable laws.                                                                                                                                                                                                                                                                                                                                    |
| 27.           | Introduction of exotic species.                                                                                                                       | Regulated as per the applicable laws.                                                                                                                                                                                                                                                                                                                                    |

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| S. No.<br>(1)                 | Activity<br>(2)                                     | Description<br>(3)                                     |
|-------------------------------|-----------------------------------------------------|--------------------------------------------------------|
| 28.                           | Commercial sign boards and hoardings.               | Regulated as per the applicable laws.                  |
| 29.                           | Eco-tourism.                                        | Regulated as per the applicable laws.                  |
| <b>C. Promoted Activities</b> |                                                     |                                                        |
| 30.                           | Rain water harvesting.                              | Shall be actively promoted.                            |
| 31.                           | Organic farming.                                    | Shall be actively promoted.                            |
| 32.                           | Adoption of green technology for all activities.    | Shall be actively promoted.                            |
| 33.                           | Cottage industries including village artisans, etc. | Shall be actively promoted.                            |
| 34.                           | Use of renewable energy and fuels.                  | Bio-gas, solar light, etc. shall be actively promoted. |
| 35.                           | Agro-forestry.                                      | Shall be actively promoted.                            |
| 36.                           | Plantation of horticulture and herbals.             | Shall be actively promoted.                            |
| 37.                           | Use of eco-friendly transport.                      | Shall be actively promoted.                            |
| 38.                           | Skill development.                                  | Shall be actively promoted.                            |
| 39.                           | Restoration of degraded land/ forests/ habitat.     | Shall be actively promoted.                            |
| 40.                           | Environmental awareness.                            | Shall be actively promoted.                            |

**5. Monitoring Committee.-** For effective monitoring of the provisions of this notification, the Central Government hereby constitutes a Monitoring Committee, comprising of the following, namely:-

| S. No. | Constituent of Monitoring Committee                                                                                                     | Designation           |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| (i)    | Commissioner, North Chhotanagpur Division, Hazaribagh                                                                                   | Chairman, ex officio; |
| (ii)   | Representative of the State Pollution Control Board                                                                                     | Member;               |
| (iii)  | A representative of Non-Governmental Organisation working in the field of wildlife conservation to be nominated by the State Government | Member;               |
| (iv)   | A representative nominated by the Forest and Environment Department of Jharkhand                                                        | Member;               |
| (v)    | A expert in Biodiversity nominated by the State Government                                                                              | Member;               |
| (vi)   | One expert in Ecology from reputed institution or university of the State                                                               | Member;               |
| (vii)  | Concerned territorial Divisional Forest Officer                                                                                         | Member;               |
| (viii) | Divisional Forest Officer-In Charge of Protected Area                                                                                   | Member-Secretary.     |

**6. Terms of reference. –** (1) The Monitoring Committee shall monitor the compliance of the provisions of this notification.

- (2) The tenure of the Monitoring committee shall be for three years or till the re-constitution of the new Monitoring Committee by the State Government and subsequently the Monitoring Committee shall be constituted by the State Government.
- (3) The activities that are covered in the Schedule to the notification of the Government of India in the erstwhile Ministry of Environment and Forests number S.O. 1533 (E), dated the 14<sup>th</sup> September, 2006, and are falling in the

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Eco-sensitive Zone, except for the prohibited activities as specified in the Table under paragraph 4 thereof, shall be scrutinised by the Monitoring Committee based on the actual site-specific conditions and referred to the Central Government in the Ministry of Environment, Forest and Climate Change for prior environmental clearances under the provisions of the said notification.

- (4) The activities that are not covered in the Schedule to the notification of the Government of India in the erstwhile Ministry of Environment and Forest number S.O. 1533 (E), dated the 14<sup>th</sup> September, 2006 and are falling in the Eco-sensitive Zone, except for the prohibited activities as specified in the Table under paragraph 4 thereof, shall be scrutinised by the Monitoring Committee based on the actual site-specific conditions and referred to the concerned regulatory authorities.
- (5) The Member-Secretary of the Monitoring Committee or the concerned Deputy Commissioner shall be competent to file complaints under section 19 of the Environment Act, against any person who contravenes the provisions of this notification.
- (6) The Monitoring Committee may invite representatives or experts from concerned Departments, representatives from industry associations or concerned stakeholders to assist in its deliberations depending on the requirements on issue to issue basis.
- (7) The Monitoring Committee shall submit the annual action taken report of its activities as on the 31<sup>st</sup> March of every year by the 30<sup>th</sup> June of that year to the Chief Wildlife Warden in the State as per proforma appended as Annexure V.
- (8) The Central Government in the Ministry of Environment, Forest and Climate Change may give such directions, as it deems fit, to the Monitoring Committee for effective discharge of its functions.

**7. Additional measures.-** The Central Government and State Government may specify additional measures, if any, for giving effect to provisions of this notification.

**8. Supreme Court, etc. orders.-** The provisions of this notification shall be subject to the orders, if any passed or to be passed by the Hon'ble Supreme Court of India or High Court or the National Green Tribunal.

[F. No. 25/67/2015-ESZ-RE]

DR. T. CHANDINI, Scientist 'G'

#### ANNEXURE- I

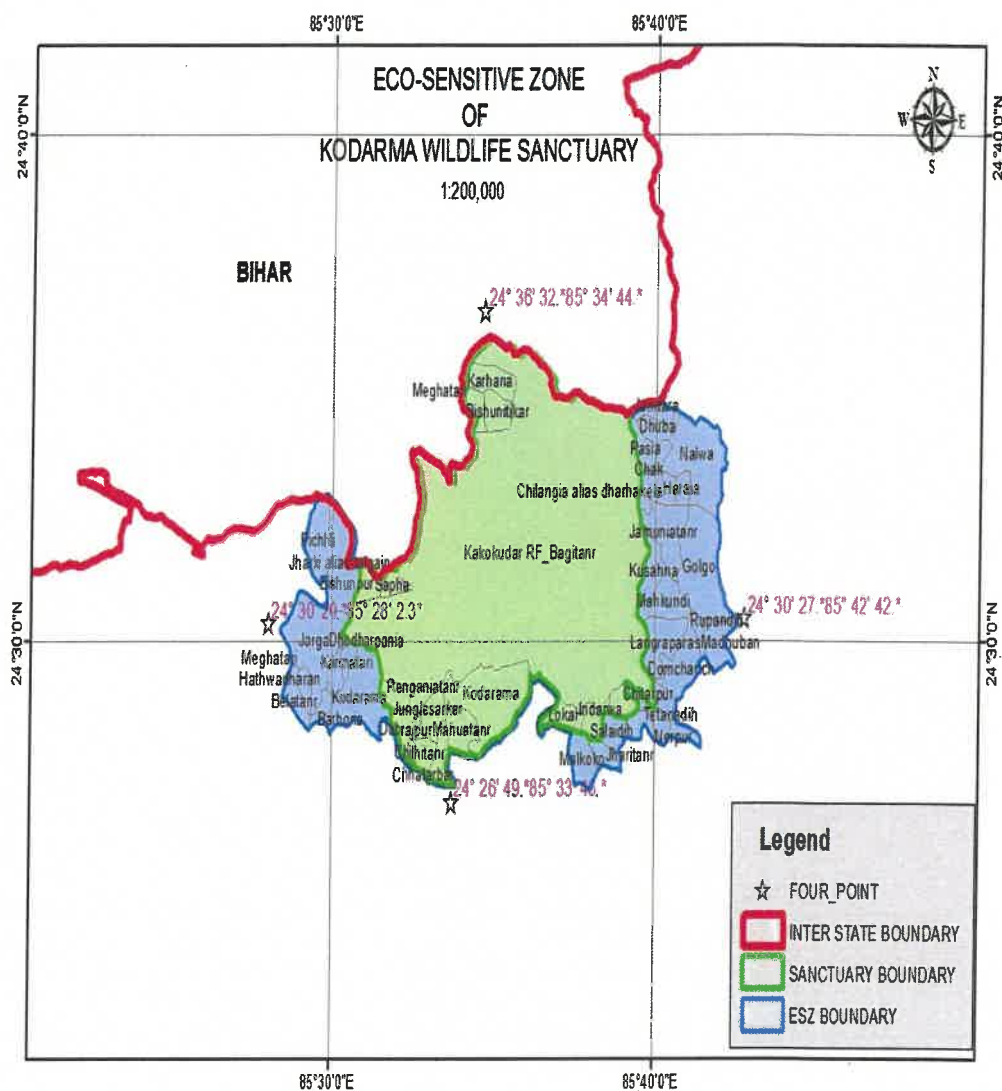
#### BOUNDARY DESCRIPTION OF KODERMA WILDLIFE SANCTUARY AND ITS ECO-SENSITIVE ZONE IN THE STATE OF JHARKHAND

- North:-** Inter-State border with Bihar (Nawada District of Bihar) and Jharkhand (Koderma District of Jharkhand)
- East:-** Eastern part of *Jamtara*, *Dhuba*, *Nalwa*, *Golgo*, *Rupandih*, *Madhuban* and *Domchanch*, South and Southern-East part *Tetariadih* and *Nerpur* Revenue Villages.
- South:-** South and Southern-East part of *Salaidih*, Southern part of *Jharitanr* and South and Southern-West part of *Malkoko* and thereafter the Border with Koderma-Domchanch road till *Lokai* Village.
- West:-** Koderma town is in western part followed by *Barhoria*, Southern part of *Belatanr*, Western part of *Hathwadharan*, *Meghatari*, *Bishunpur*, *Jharki* and *Pichhli* Revenue Villages.



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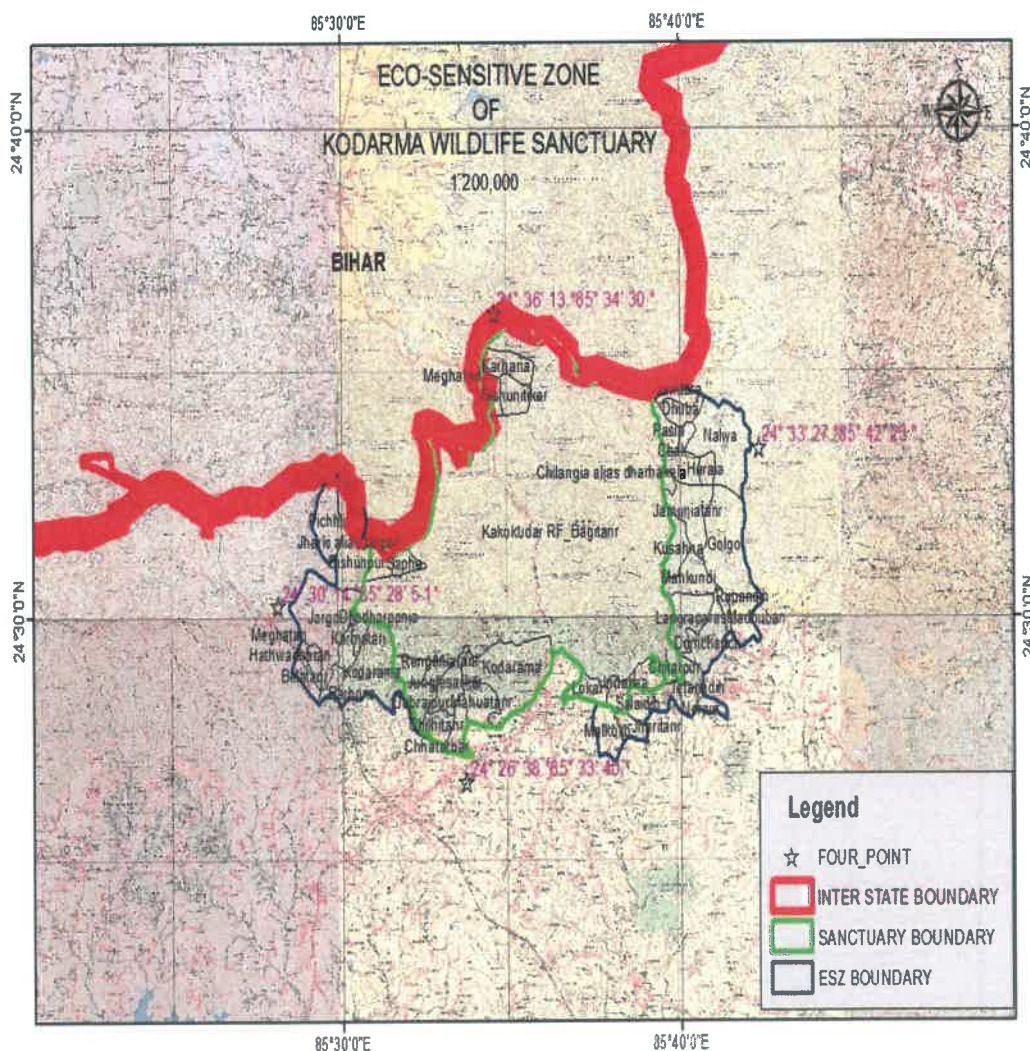
### MAP OF KODERMA WILDLIFE SANCTUARY AND ITS ECO-SENSITIVE ZONE ALONG WITH LATITUDE AND LONGITUDE OF PROMINENT LOCATIONS





## ANNEXURE- IIB

**MAP OF ECO-SENSITIVE ZONE OF KODERMA WILDLIFE SANCTUARY ALONG WITH LATITUDE AND LONGITUDE OF PROMINENT LOCATIONS ON SURVEY OF INDIA (SOI) TOPOSHEET**



## ANNEXURE-III

TABLE A: GEO- COORDINATES OF PROMINENT LOCATIONS OF KODERMA WILDLIFE SANCTUARY

| Points | Latitude      | Longitude     |
|--------|---------------|---------------|
| P-1    | 24° 30' 7" N  | 85° 30' 19" E |
| P-2    | 24° 31' 22" N | 85° 31' 47" E |
| P-3    | 24° 33' 34" N | 85° 33' 1" E  |
| P-4    | 24° 34' 33" N | 85° 34' 15" E |

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|      |               |               |
|------|---------------|---------------|
| P-5  | 24° 35' 42" N | 85° 36' 4" E  |
| P-6  | 24° 34' 34" N | 85° 38' 57" E |
| P-7  | 24° 32' 13" N | 85° 39' 41" E |
| P-8  | 24° 30' 4" N  | 85° 39' 49" E |
| P-9  | 24° 29' 2" N  | 85° 39' 35" E |
| P-10 | 24° 28' 30" N | 85° 38' 59" E |
| P-11 | 24° 28' 12" N | 85° 37' 46" E |
| P-12 | 24° 28' 58" N | 85° 37' 4" E  |
| P-13 | 24° 28' 41" N | 85° 35' 56" E |
| P-14 | 24° 27' 51" N | 85° 33' 54" E |
| P-15 | 24° 27' 38" N | 85° 32' 27" E |
| P-16 | 24° 29' 28" N | 85° 31' 32" E |
| P-17 | 24° 29' 40" N | 85° 31' 28" E |
| P-18 | 24° 29' 45" N | 85° 31' 26" E |
| P-19 | 24° 29' 49" N | 85° 31' 22" E |
| P-20 | 24° 29' 60" N | 85° 30' 40" E |

TABLE B: GEO-COORDINATES OF PROMINENT LOCATIONS OF ECO-SENSITIVE ZONE

| Points | Latitude(N)   | Longitude (E) |
|--------|---------------|---------------|
| P-1    | 24° 35' 59" N | 85° 34' 57" E |
| P-2    | 24° 35' 16" N | 85° 36' 52" E |
| P-3    | 24° 34' 42" N | 85° 38' 18" E |
| P-4    | 24° 34' 27" N | 85° 40' 54" E |
| P-5    | 24° 33' 47" N | 85° 42' 7" E  |
| P-6    | 24° 31' 44" N | 85° 41' 53" E |
| P-7    | 24° 29' 40" N | 85° 42' 22" E |
| P-8    | 24° 29' 29" N | 85° 41' 23" E |
| P-9    | 24° 28' 19" N | 85° 40' 58" E |
| P-10   | 24° 28' 7" N  | 85° 40' 28" E |
| P-11   | 24° 28' 3" N  | 85° 39' 17" E |
| P-12   | 24° 27' 11" N | 85° 38' 8" E  |
| P-13   | 24° 27' 54" N | 85° 37' 23" E |
| P-14   | 24° 28' 31" N | 85° 36' 29" E |
| P-15   | 24° 28' 49" N | 85° 36' 10" E |
| P-16   | 24° 27' 41" N | 85° 34' 20" E |
| P-17   | 24° 27' 6" N  | 85° 33' 30" E |
| P-18   | 24° 27' 45" N | 85° 32' 10" E |
| P-19   | 24° 28' 9" N  | 85° 31' 20" E |
| P-20   | 24° 28' 20" N | 85° 29' 50" E |
| P-21   | 24° 28' 54" N | 85° 28' 29" E |

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|      |               |               |
|------|---------------|---------------|
| P-22 | 24° 30' 34" N | 85° 28' 43" E |
| P-23 | 24° 31' 14" N | 85° 29' 45" E |
| P-24 | 24° 32' 19" N | 85° 29' 12" E |
| P-25 | 24° 31' 43" N | 85° 30' 39" E |
| P-26 | 24° 32' 35" N | 85° 32' 41" E |
| P-27 | 24° 33' 31" N | 85° 33' 47" E |
| P-28 | 24° 35' 16" N | 85° 34' 1" E  |

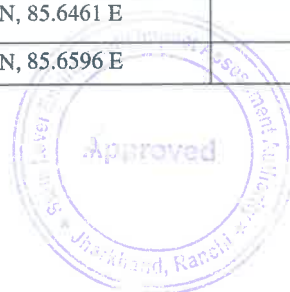
## Annexure-IV

Table-A

## VILLAGES FALLING IN ECO-SENSITIVE ZONE OF KODERMA WILD LIFE SANCTUARY

| Sl. No. | Name of Village        | Admm Block | GPS -Co-ordinets     | Town/ Village code as per Census of India , 2011 |
|---------|------------------------|------------|----------------------|--------------------------------------------------|
| (1)     | (2)                    | (3)        | (4)                  | (5)                                              |
| 1       | Pasia                  | Domchanch  | 24.5636 N, 85.6603 E | 349765                                           |
| 2       | Chak                   | Domchanch  | 24.5618 N, 85.6696 E | 349766                                           |
| 3       | Jamtara                | Domchanch  | 24.5752 N, 85.6668 E | 349763                                           |
| 4       | Dhuba                  | Domchanch  | 24.5702 N, 85.6672 E | 349764                                           |
| 5       | Nalwa                  | Domchanch  | 24.5592 N, 85.6881 E | 349767                                           |
| 6       | Haraia                 | Domchanch  | 24.5504 N, 85.6803 E | 349768                                           |
| 7       | Chilangia / Dharhakola | Domchanch  | 24.5509 N, 85.6684 E | 349769                                           |
| 8       | Samasiharia            | Domchanch  | 24.5459 N, 85.6611 E | 349770                                           |
| 9       | Jamuniatanr            | Domchanch  | 24.5359 N, 85.6724 E | 349771                                           |
| 10      | Kusahna                | Domchanch  | 24.5234 N, 85.6650 E | 349772                                           |
| 11      | Golgo                  | Domchanch  | 24.5245 N, 85.6904 E | 349774                                           |
| 12      | Madhuban               | Domchanch  | 24.4992 N, 85.6983 E | 349784                                           |
| 13      | Rupandih               | Domchanch  | 24.5030 N, 85.6890 E | 349785                                           |
| 14      | Tetariadih             | Domchanch  | 24.4719 N, 85.6705 E | 349787                                           |
| 15      | Nerpur                 | Domchanch  | 24.4719 N, 85.6705 E | 349788                                           |
| 16      | Domchanch              | Domchanch  | 24.4923 N, 85.6807 E | 349865                                           |
| 17      | Langraparas            | Domchanch  | 24.4996 N, 85.6707 E | 349786                                           |
| 18      | Mahkundi               | Domchanch  | 24.5130 N, 85.6719 E | 349773                                           |
| 19      | Pichhli                | Koderma    | 24.5332 N, 85.4930 E | 349640                                           |
| 20      | Belatanr               | Koderma    | 24.4804 N, 85.4815 E | 349646                                           |
| 21      | Jarga                  | Koderma    | 24.5002 N, 85.4909 E | 349648                                           |
| 22      | Barhoria               | Koderma    | 24.4781 N, 85.4953 E | 349649                                           |
| 23      | Jharitanr              | Koderma    | 24.4623 N, 85.6419 E | 349704                                           |
| 24      | Salaidih               | Koderma    | 24.4703 N, 85.6461 E | 349705                                           |
| 25      | Gendwadih / Bisunpur   | Koderma    | 24.4725 N, 85.6596 E | 349729                                           |

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|    |                |         |                      |        |
|----|----------------|---------|----------------------|--------|
| 26 | Jharki/Tatgain | Koderma | 24.5261 N, 85.5047 E | 349639 |
| 27 | Dhodharpania   | Koderma | 24.4886 N, 85.5020 E | 349650 |
| 28 | Meghatari      | Koderma | 24.4898 N, 85.4803 E | 349645 |
| 29 | Hathwadharan   | Koderma | 24.4847 N, 85.4863 E | 349647 |
| 30 | Karharia       | Koderma | 24.4813 N, 85.6588 E | 349728 |
| 31 | Malkoko        | Koderma | 24.4609 N, 85.6301 E | 349703 |

Table-B

## LIST OF ENCLAVE VILLAGES ALONG WITH GEO-COORDINATES

| DETAILS OF ENCLAVED VILLAGES OF KODERMA WILD LIFE SANCTUARY FOR IDENTIFICATION OF ECO-SENSITIVE ZONE |                                            |            |                      |                                                  |
|------------------------------------------------------------------------------------------------------|--------------------------------------------|------------|----------------------|--------------------------------------------------|
| Sl. No.                                                                                              | Name of Village                            | Admm Block | GPS -Co-ordinets     | Town/ Village code as per Census of India , 2011 |
| (1)                                                                                                  | (2)                                        | (3)        | (4)                  | (5)                                              |
| 1                                                                                                    | Koderma Old R.F. (Phulwaria & Dumariatand) | Koderma    | 24.4808 N, 85.5827 E | 349695                                           |
| 2                                                                                                    | Chitarpur                                  | Koderma    | 24.4796 N, 85.6505 E | 349706                                           |
| 3                                                                                                    | Mahuatanr                                  | Koderma    | 24.4709 N, 85.5676 E | 349714                                           |
| 4                                                                                                    | Lokai                                      | Koderma    | 24.4749 N, 85.6207 E | 349708                                           |
| 5                                                                                                    | Beherwatanr                                | Koderma    |                      | 349709                                           |
| 6                                                                                                    | Baghitarnr                                 | Koderma    | 24.5290 N, 85.5997 E | 349709                                           |
| 7                                                                                                    | Chhatarbar                                 | Koderma    | 24.4615 N, 85.5573 E | 349716                                           |
| 8                                                                                                    | Chillitanr                                 | Koderma    | 24.4631 N, 85.5472 E | 349717                                           |
| 9                                                                                                    | Semratari                                  | Koderma    | 24.4814 N, 85.5461 E | 349719                                           |
| 10                                                                                                   | Dubrajpur                                  | Koderma    | 24.4724 N, 85.5387 E | 349720                                           |
| 11                                                                                                   | Ranghintanr                                | Koderma    | 24.4825 N, 85.5338 E | 349721                                           |
| 12                                                                                                   | Jungal Sarkar                              | Koderma    | 24.4763 N, 85.5530 E | 349718                                           |
| 13                                                                                                   | Karharia                                   | Koderma    | 24.5860 N, 85.5817 E | 349725                                           |
| 14                                                                                                   | Meghatari                                  | Koderma    | 24.5768 N, 85.5741 E | 349724                                           |
| 15                                                                                                   | Bisnutikar                                 | Koderma    | 24.5757 N, 85.5847 E | 349726                                           |
| 16                                                                                                   | Bisnupur                                   | Koderma    | 24.5189 N, 85.5187 E | 349722                                           |
| 17                                                                                                   | Sapha                                      | Koderma    | 24.5187 N, 85.5316 E | 349723                                           |
| 18                                                                                                   | Indarwa                                    | Koderma    | 24.4738 N, 85.6361 E | 349707                                           |

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## ANNEXURE -V

**Performa of Action Taken Report:**

1. Number and date of meetings.
2. Minutes of the meetings: (Mention noteworthy points. Attach minutes of the meeting as separate Annexure).
3. Status of preparation of Zonal Master Plan including Tourism Master Plan.
4. Summary of cases dealt with rectification of error apparent on face of land record (Eco-sensitive Zone wise). Details may be attached as Annexure.
5. Summary of cases scrutinised for activities covered under the Environment Impact Assessment Notification, 2006 (Details may be attached as separate Annexure).
6. Summary of cases scrutinised for activities not covered under the Environment Impact Assessment Notification, 2006 (Details may be attached as separate Annexure).
7. Summary of complaints lodged under section 19 of the Environment (Protection) Act, 1986.
8. Any other matter of importance.



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# ANNEXURE - VI



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कार्यपालक अभियंता का कार्यालय  
पेयजल एवं स्वच्छता प्रमंडल, झुमरीतिलैया।  
Email ID: eedwsd.jhumaritellaiya@gmail.com

पत्रांक..... 716

दिनांक..... 9/5/2025

प्रेषक,

कार्यपालक अभियंता,  
पेयजल एवं स्वच्छता प्रमंडल,  
झुमरीतिलैया।

सेवा में,

जिला खनन पदाधिकारी,  
कोडरमा।

विषय : कोडरमा जिला के सभी प्रखण्ड का Ground Water Level से संबंधित  
प्रतिवेदन उपलब्ध कराने के संबंध में।

प्रसंग : आपका पत्रांक 421/एम0 कोडरमा दिनांक 08.05.2025

महाशय,

उपर्युक्त विषयक प्रासंगिक पत्र के संदर्भ में सूचित करना है कि कोडरमा जिला के  
सभी प्रखण्ड का Ground Water Level से संबंधित प्रतिवेदन इस पत्र के साथ संलग्न कर समर्पित  
की जा रही है।

अनु0 - यथोपरि।

विश्वासभाजन,

*Handwritten signature*  
- 9/5/2025

कार्यपालक अभियंता,  
पेयजल एवं स्वच्छता प्रमंडल,  
झुमरीतिलैया।



2

## Water Table Report

Name of Division :- Drinking Water And Sanitation Division Jhumritelaiya

| SI No. | District | Block     | Average Water Table (In M) |        |          |          |        |
|--------|----------|-----------|----------------------------|--------|----------|----------|--------|
|        |          |           | Jan 25                     | Feb 25 | March 25 | April 25 | May-25 |
| 1      | Koderma  | Koderma   | 20.10                      | 20.15  | 20.30    | 20.90    | 21.60  |
| 2      |          | Domchanch | 20.20                      | 20.25  | 20.60    | 21.80    | 22.10  |
| 3      |          | Satgawan  | 19.15                      | 19.25  | 19.35    | 20.50    | 21.20  |
| 4      |          | Jainagar  | 14.90                      | 15.10  | 16.20    | 17.80    | 18.10  |
| 5      |          | Markacho  | 20.00                      | 20.10  | 20.20    | 20.91    | 21.30  |
| 6      |          | Chandwara | 13.50                      | 15.50  | 15.80    | 16.20    | 18.10  |

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09/05/25  
AE

Executive Engineer

D. W. & S. Division Jhumritelaiya



# ANNEXURE - VII



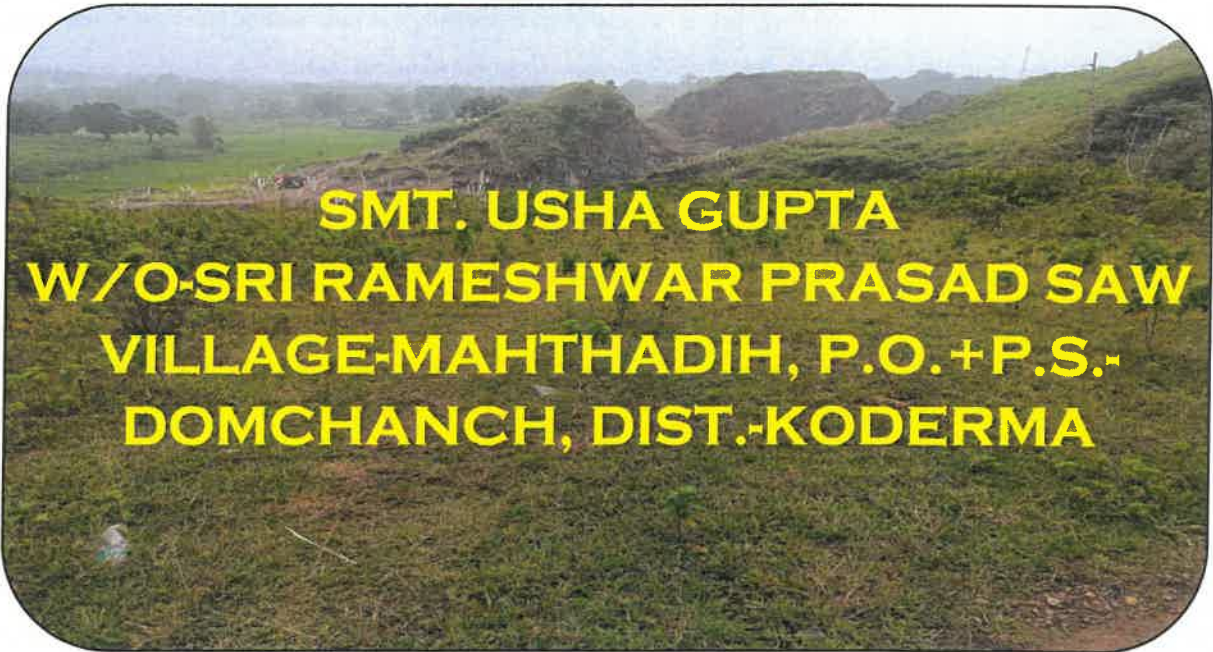


# **HYDROGEOLOGICAL STUDY REPORT**

## **OF**

# **TOLKHAR STONE MINE**

**APPLICANT**



**SMT. USHA GUPTA**  
**W/O-SRI RAMESHWAR PRASAD SAW**  
**VILLAGE-MAHTHADIH, P.O.+P.S.-**  
**DOMCHANCH, DIST.-KODERMA**

***PREPARED BY:***

**DR. ANAL K SINHA**

**M.Sc, M.Tech, PhD & LLB**

**NABET FUNCTIONAL AREA EXPERT**

**GEOLOGY & HYDRO GEOLOGY**

*Anal K Sinha*  
**DR. ANAL K SINHA**  
**NABET FUNCTIONAL AREA EXPERT**  
**GEOLOGY AND HYDROGEOLOGY**



*✱*

# HYDROGEOLOGICAL STUDY REPORT OF TOLKHAR STONE DEPOSIT AREA-2.28ACRES, DIST-KODERMA, JHARKHAND

## 1. INTRODUCTION

Groundwater is one of the most vital natural resources, especially in regions where surface water availability is limited or seasonal. Its sustainable management requires a thorough understanding of the hydrogeological setting of the area. The primary objective of the present study is to evaluate the availability and potential of groundwater resources in the area. This includes an assessment of the depth to potential aquifers, identification of aquifer types, estimation of possible yields, and evaluation of groundwater quality. To achieve this, all available hydrogeological information relevant to the study area has been thoroughly analyzed, supplemented by a geophysical survey to enhance subsurface understanding.

The investigation involved an integrated approach comprising hydrogeological and geophysical fieldwork, supported by a detailed analysis of existing geological and hydrogeological data. Relevant data were systematically collected, compiled, and interpreted to develop a comprehensive understanding of the subsurface conditions. This approach enabled the identification of aquifer zones, assessment of their characteristics, and evaluation of their capacity to support sustainable groundwater development.

The study area has been witnessing increasing dependence on groundwater due to rapid population growth, agricultural intensification, and industrial expansion. This has led to growing concerns about the long-term sustainability of the groundwater resources. A systematic evaluation of the geological formations, aquifer characteristics, groundwater levels, flow patterns, and recharge conditions is therefore essential for planning effective water resource management strategies.

The main objectives of this study are to delineate the aquifer systems present in the area to know the depth of water table. The excavation of stone shall be done in depth. So, electrical resistivity method prevent the mining operation in water bearing zone.

The methodology adopted for this investigation includes collection and analysis of secondary data, field surveys, well inventory, water level monitoring, water quality analysis, and interpretation of geological and hydrogeological data. This comprehensive approach provides a scientific basis for evaluating the status of groundwater resources and suggesting appropriate management practices.

*Anal K Sinha*  
DR. ANAL K SINHA  
NABET FUNCTIONAL AREA EXPERT  
GEOLOGY AND HYDROGEOLOGY

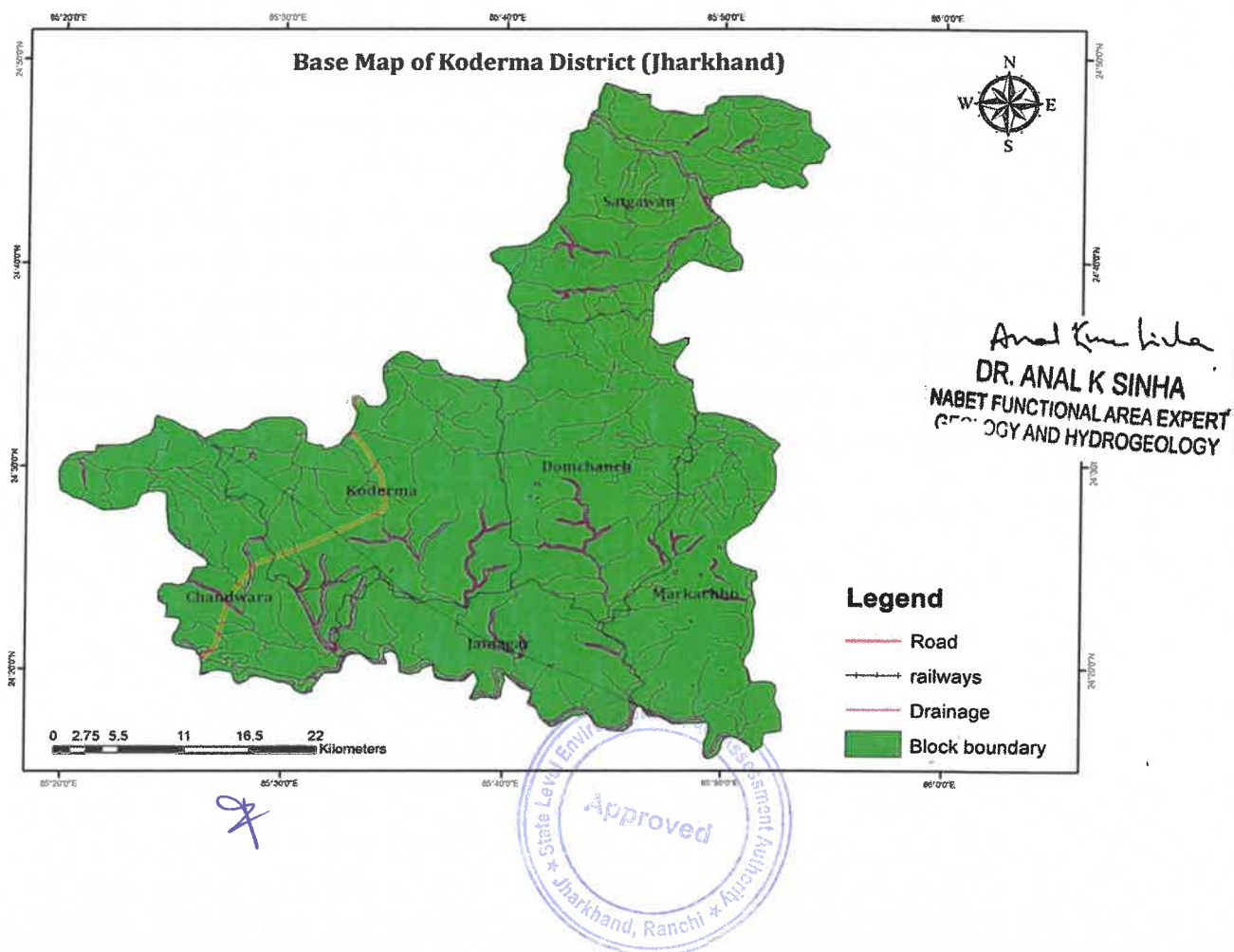


# HYDROGEOLOGICAL STUDY REPORT OF TOLKHAR STONE DEPOSIT AREA-2.28ACRES, DIST-KODERMA, JHARKHAND

## 2. PHYSIOGRAPHY

### Administration

The district has been famous for rich mica deposits and is also known as Abhrakh Nagri. It is essentially an under-developed , thinly populated district having varied but limited endowment of natural resources. Koderma district is located in the northern part of North Chhotanagpur Commissionerary and is bounded by Nawada and Gaya district of Bihar state in the north west and west, Chatra and Hazaribag districts in the south west and Giridih district in the east . It is located between 24° 15' 58.4'' to 24° 48' 56.5'' N Latitude and 85° 17' 07'' to 85° 56' 22.58'' E Longitude. It is covered under Survey of India Toposheets nos. 72H/6, 7, 9, 10, 11, 13,14 & 15. It comprises geographical area about 1496.70 sqkm. Certain rivers/nadies form natural border of Koderma district viz. Mohana in south west, Leriya in southern, Barsoti nadi in south eastern, Jamui in the eastern, Jharna nadi in north west and Tillaiya nadi in central southern border. Koderma district has one Sub-division, Kodarma itself and 6 (Six) developmental administration the district is divided into 6 (Six) developmental blocks namely: Koderma, Jainagar, Chandwara, Markachho, Domchanch and Satgawan. There are 717 (Seven Hundred Seventeen) Villages and 109 (One Hundred Nine) Panchayats.





## HYDROGEOLOGICAL STUDY REPORT OF TOLKHAR STONE DEPOSIT AREA-2.28ACRES, DIST-KODERMA, JHARKHAND

### **DRAINAGE:**

The hydrological condition of the study area is governed by two major river basin/sub-basins, which is mentioned below:

#### **Name of River Basin/Sub Basin**

1. Damodar River Basin
2. Barakar River sub-basin

#### **Damodar River Basin:**

Damodar River basin plays a vital role for ecological balance and provides the life supporting system of large number of flora and fauna since millions of years. From prehistoric time human civilization evolved along this river basin.

The main tributary of Damodar is Barakar which also originates in Hazaribagh District in Chotanagpur plateau. These two rivers form large upper catchment of the basin with an area of 17500 sqkm in the undulating plateau with their numerous drainage networks.

#### **Barakar River sub-basin:**

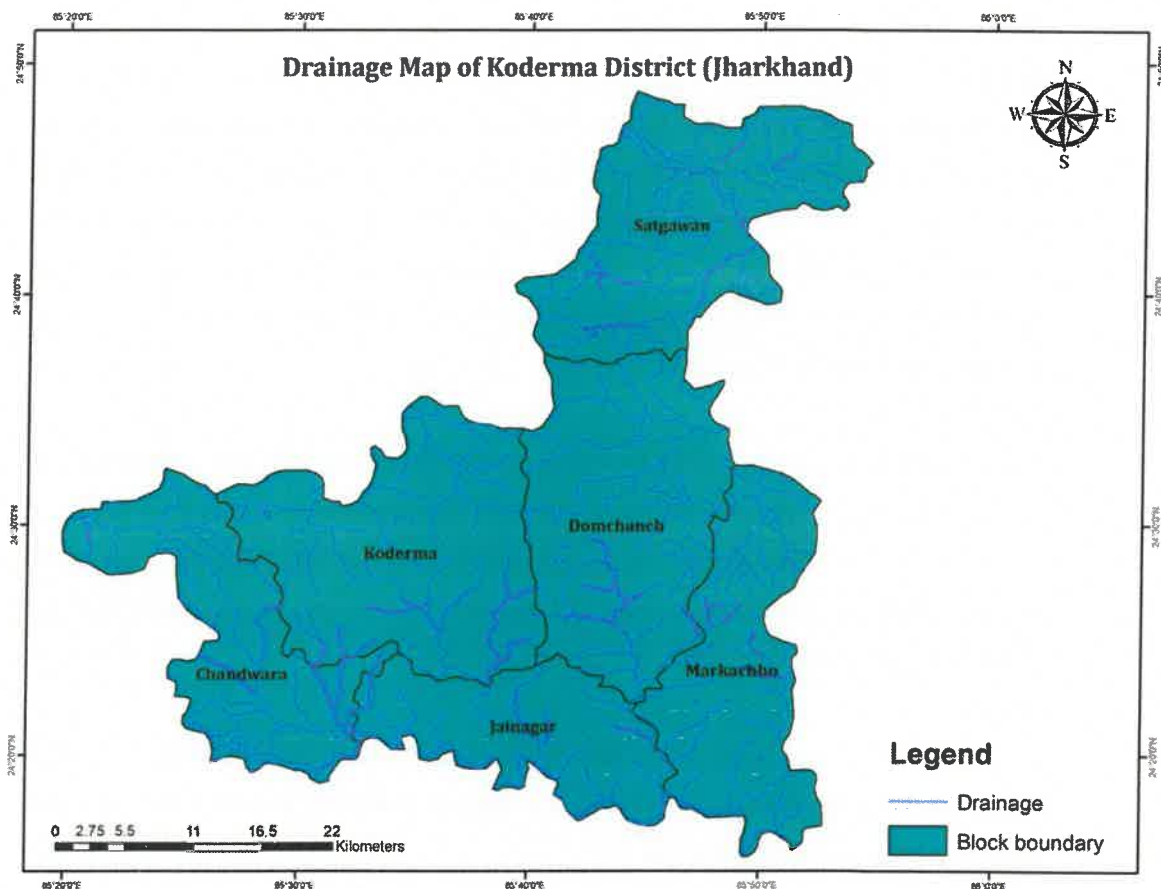
The total geographic area of the basin is 7026 sq km, of which 453.23 sq km falls in Koderma and 695.7 sq km in Koderma district. The Barakar river originates from the hills of Hazaribagh and runs almost parallel to river Damodar in about 200km length in the eastern direction and join the river Damodar near dishergarh town. The important tributaries of the river Barakar are the saghar, the barkar sakri, barsati khero, usri chikri . The Kodarma district falls under lower Ganga basin .By and large, the drainage density is high in hilly and undulating tracts followed by moderate to low density in plains. Invariably, short slope areas between high hills and plain displayed very high drainage density qualifying for severely gullied and ravinous areas. The relief in general is normal in plains, excessive in hilly and undulating areas; whereas, valley fills show subnormal relief. In scattered intermountain valley areas occasionally ponded relief is common. The study area has dendritic drainage pattern which is structurally controlled and typical characteristic of gneissic rock type. The Flow direction of drainage pattern is towards eastern part. Major river in this part is Damodar and Barakar.

  
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# HYDROGEOLOGICAL STUDY REPORT OF TOLKHAR STONE DEPOSIT AREA-2.28ACRES, DIST-KODERMA, JHARKHAND



## CLIMATE

Dhanbad district experience sub-tropical climate, which is characterized by hot summer from March to May and well distributed rainfall during southwest monsoon from June to September. Winter season in the area is marked by dry and cold weather with intermittent showers during the month of December to February.

Dhanbad area is climatically different from neighboring regions. The important climatic elements such as temperature, precipitation, pressure, and wind velocity show great variation.

Three broad climatic seasons are found - (1) **the winter season** lasting from November to February. The months of December and January are the coldest. (2) **The summer season** begins from March and lasts till May. During April the wind blows from the west .It remains relatively hot and temperature rises around 40°C. (3) **The Rainy season**-This season normally begins from the middle of June, when the monsoon winds bring moisture-laden clouds from the Bay of Bengal



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### RAINFALL

The annual average rainfall is 1126 mm. Koderma region receives more rainfall and it gradually decreases in east direction. Having humid and sub humid tropical monsoon type of climate characterize the climatic zone of Koderma. In normal year 40-60 mm of rain is received as pre monsoon shower that help farmer to start land preparation. About 80% of the rain is receive during mid June to first week of October. Further, 100 mm of rain is received during October and November. Winter rain during December to February is very helpful for Rabi cultivation.

### TEMPERATURE

The calendar year may be divided into three main seasons in the district of Koderma. The winter season starts form November to February. The summer season is from March to May and the rainy season is from June to October. In winter early mornings and nights are cold. Night temperature falls down to 5 degree or even lower. To the contrast summer is hot and unpleasant, the temperature rising up to 44°C.

### SOILS

The soils of the study area can be broadly grouped into the soil developed in different formation like granite gneiss of Archean age, and alluvial plain. Texturally the soils have been classified into four classes as :-

**Stony and Gravelly:** These are low grade soils having a large admixture of cobbles, pebbles and gravels generally found at the base of the hills.

**Sandy Soils :** It is found near the stream beds containing 60% sand and are easily drained. These are poor in respect of fertility and require heavy maturing.

**Loamy Soils:** These consist mostly of detritus of decomposed rocks and vegetables matter. It is suitable for cultivation. Normally these are found in valleys near the hills.

**Clayey Soils:** These soils are found near tank beds. It is sticky soils. Their water bearing capacity is very high. The area is very fertile but yielding capacity improved with addition of sand, lime and organic manures etc.

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## 3. SCOPE & OBJECTIVES

The scope of the present hydrogeological investigation encompasses the following key activities:

**Site Reconnaissance:** Conducting site visits to gain familiarity with the project area and to identify any potential hydrogeological concerns that may arise due to the proposed mining activities. This includes evaluating terrain features, existing water bodies, and land use patterns that may influence the groundwater scenario.

**Data Collection and Review:** Gathering and synthesizing background information such as geological maps, hydrogeological reports and existing groundwater studies. This data forms the foundation for a comprehensive understanding of the subsurface conditions and aids in enhancing the quality and accuracy of the assessment.

**Field Investigations:** Undertaking detailed hydrogeological evaluations and geophysical surveys at selected locations to determine the occurrence, depth, extent, and yield potential of aquifers within the project site.

**Groundwater Assessment and Reporting:** Preparing detailed hydrogeological survey reports in accordance with the guidelines and procedures established by the Central Ground Water Board (CGWB). This includes:

- ❖ Assessment of groundwater availability.
- ❖ Evaluation of aquifer characteristics and yield potential.
- ❖ Assessment of groundwater quality and potential deviations from national standards.
- ❖ Analysis of the potential impacts of the proposed mining activities on aquifer systems, water quality, and existing groundwater users.

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## 4. LOCATION OF THE AREA

The mining lease over an area OF 2.28 Acres in Plot no- 01, Khata no-10 in village Tolkhari of district Koderma, of Jharkhand State. The area is located in survey of India Topo Sheet No. F45T15 and bounded by Latitude N 24° 24' 16.815" to N 24° 24' 20.969" & Longitude: E 85° 47' 31.249" to E 85° 47' 36.136".

## 5. PURPOSE OF HYDROGEOLOGICAL STUDIES

Groundwater occurs in the area under unconfined condition in the weathered zones at shallow depths in most of the litho units in the Achaean and almost all the litho units in the Gondwanas. Groundwater occurs under confined to semi-confined condition where the fractures are deep seated and are unconnected with the top weathered zone.

**Aquifer geometry**-The aquifer geometry for shallow and deeper aquifer has been established through hydro geological studies, exploration, the surface and subsurface geophysical studies in the district covering all geological formations. The aquifer can be divided into two zones – shallow and deeper aquifer.

**(i) Shallow aquifer** – The shallow aquifers are being tapped through dug wells, dug cum bore wells or shallow bore wells drilled to the depth of 60 m. The weathered mantle and shallow fractures constitute the shallow aquifers. The thickness of weathered mantle varies from 5 to 25 mbgl. The well inventory data suggest that the maximum depth of dug well in granite gneiss and Gondwana is 17 m and 50 m respectively. Exploration in granite gneiss indicates that shallow fractures are less productive. Many dug wells and hand pumps get dried up during summer.

**Deeper aquifers:**

**Depths –to-water levels and groundwater conditions:**

Groundwater conditions in various litho units are usually described under two broad heads viz.

- (i) The porous formations and
- (ii) The fissured formations

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## HYDROGEOLOGICAL STUDY REPORT OF TOLKHAR STONE DEPOSIT AREA-2.28ACRES, DIST-KODERMA, JHARKHAND

### I. The porous Formations:

The main members of the porous formations are the Newer and Older alluvium of the Recent and sub-recent age. Recent alluvium is found in very thin veneers in topographic depressions along the Damodar River. Insignificant occurrences may also be noticed along Barakar River and in some major tributaries of these two. They cannot however, be considered as potential aquifers.

### II. The Fissured Formations:

Achaeans meta-sedimentaries, the granites, intrusive metabasics and the Lower Gondwana sedimentary constitute the productive aquifer. The first three come under consolidated Formation and the last one under semi consolidated Formation.

### Ground water level fluctuation

The upper most level (top) of the saturated zone in an unconfined aquifer is the water table. The level of water seen in a well is commonly referred to as water level. When a well is dug in an unconfined aquifer, water from the formation seeps in to the well and gradually builds up a water column. The top surface of this water column finally stops rising any further when it reaches the level of the water table. The depth of water level as seen in a well is also the depth of the water table in the aquifer.

The Ground water resource defined as below:

(i) Dynamic ground water resource in the unconfined aquifer between pre and post monsoon water levels (which means it is rechargeable/replenishable).

Static ground water resource is below the zone of seasonal fluctuation of water level in a confined aquifer (which means it is trapped between impermeable rock).

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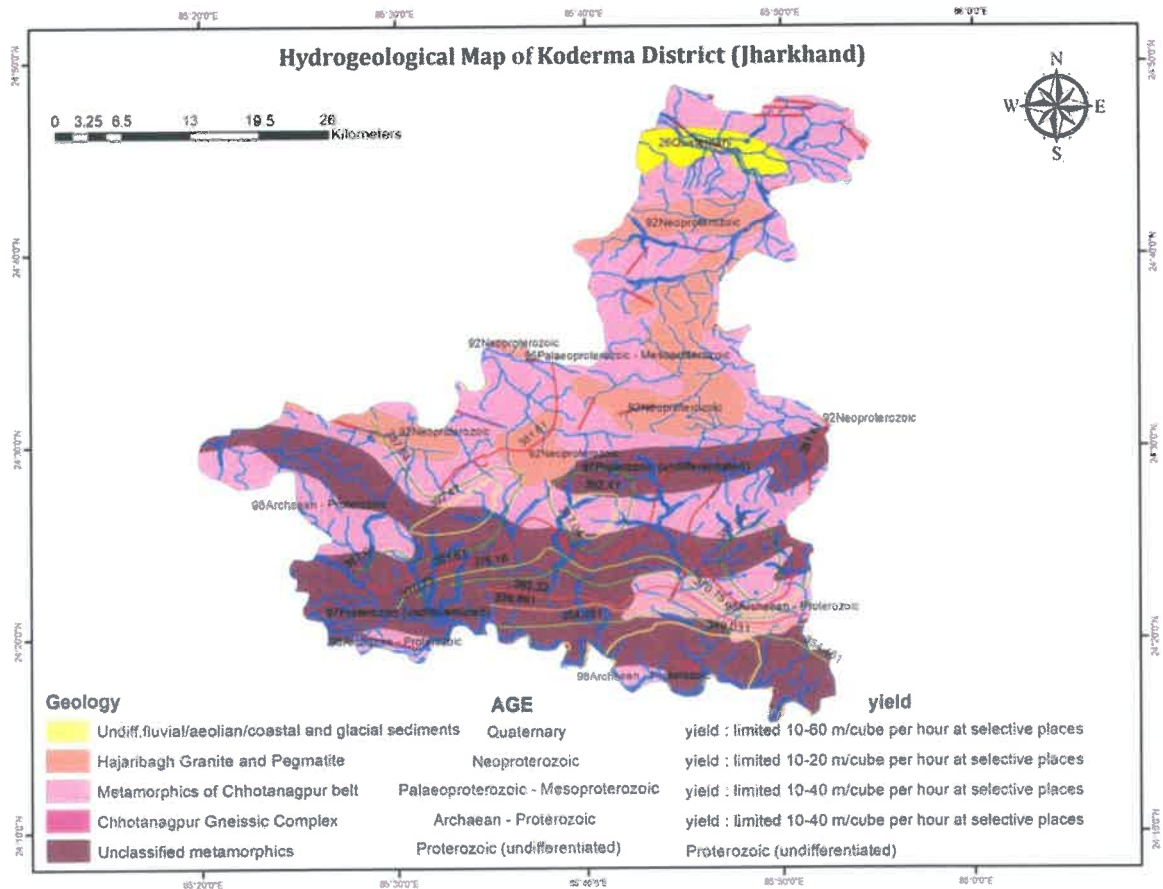
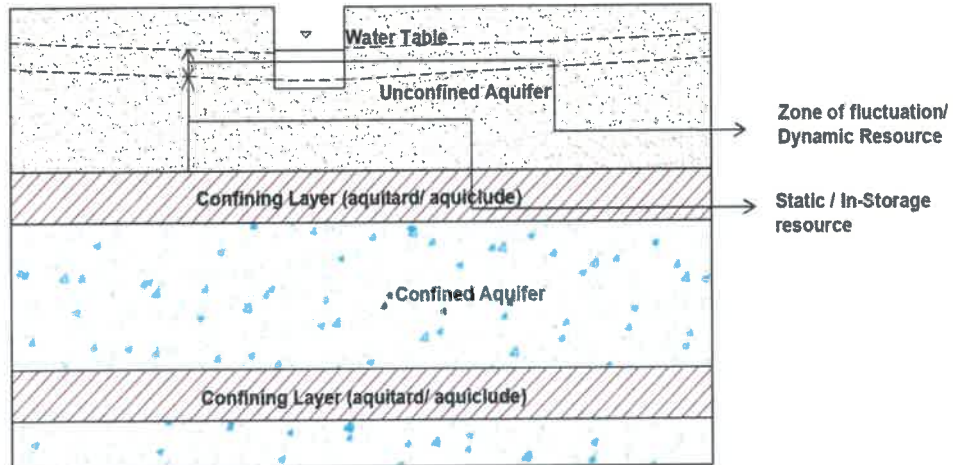


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## Resource Type

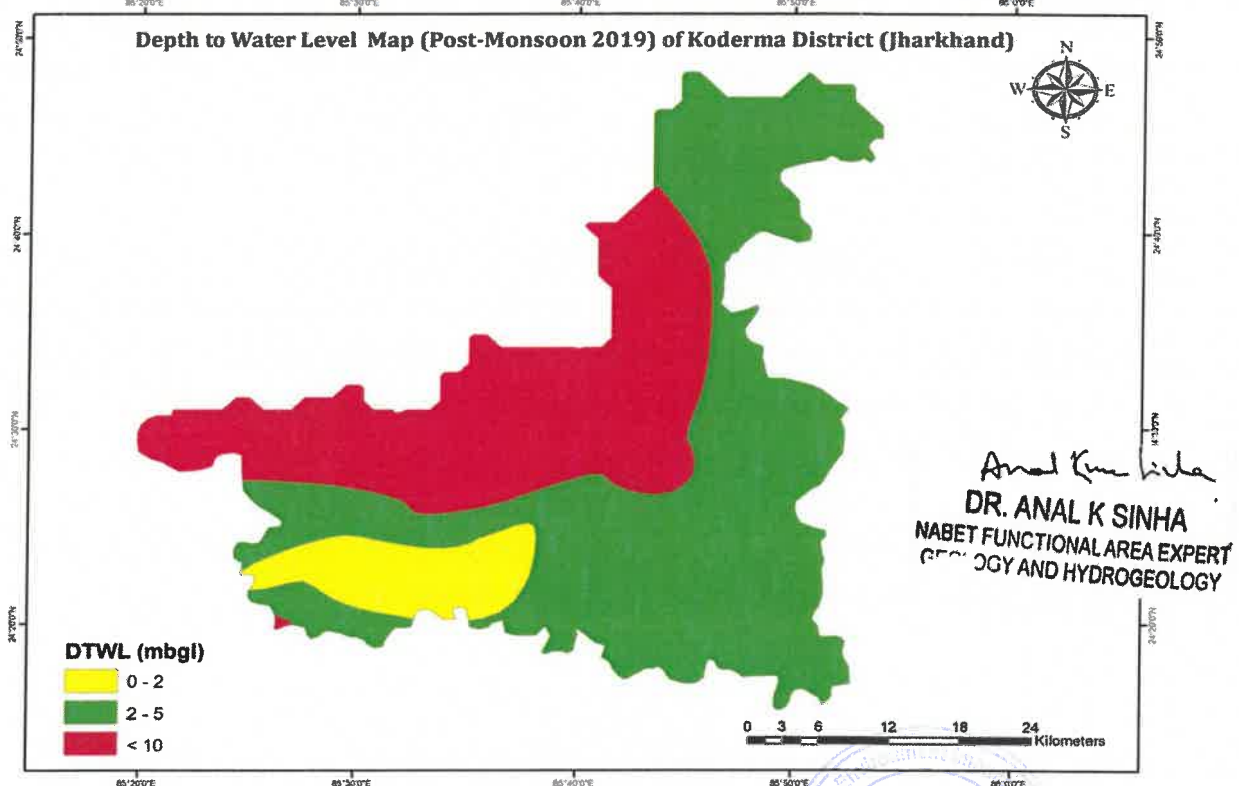
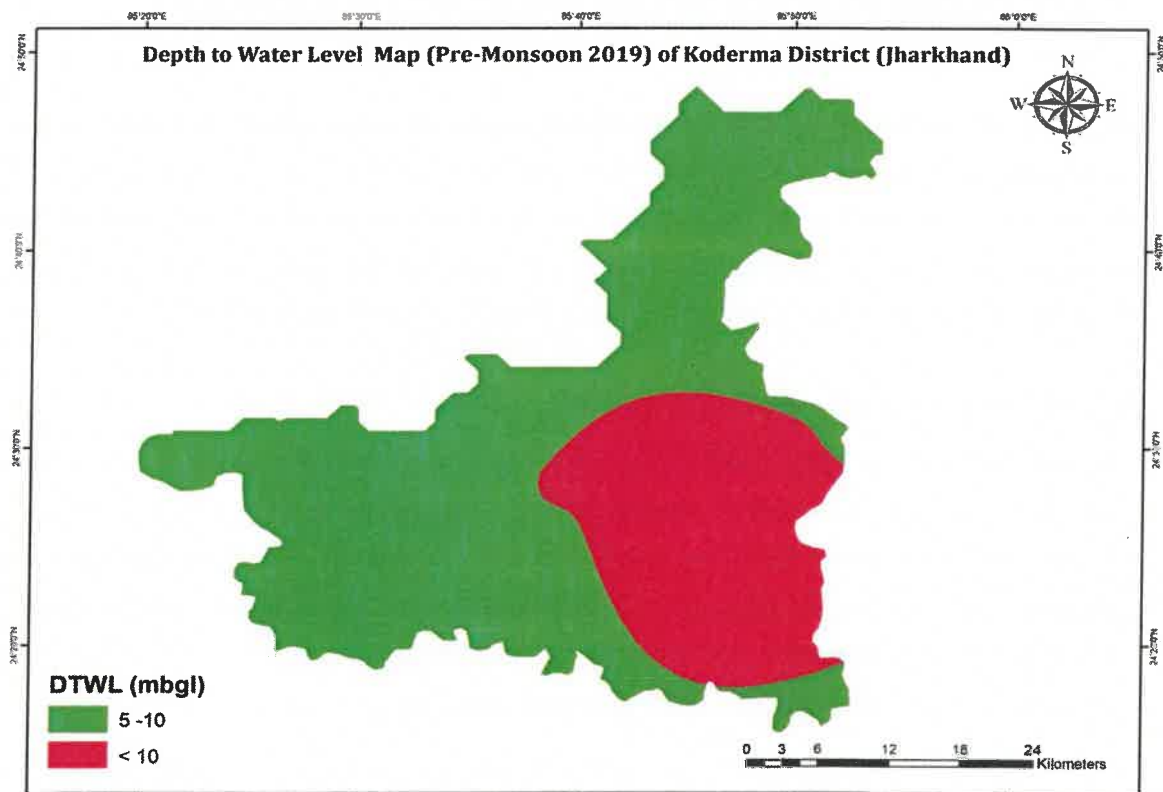
1. Dynamic - GW resource in the unconfined aquifer between pre and post monsoon water levels;
2. In-Storage/ Static - Below the zone of seasonal fluctuation of water level down to defined depth;



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## **6. GEOPHYSICAL INVESTIGATION METHOD**

A variety of geophysical methods are available to assess subsurface geological conditions. For the present study, the primary objective of the fieldwork was to determine the thickness and composition of subsurface formations and to identify potential water-bearing zones. The principal method employed was Vertical Electrical Sounding (VES) using the Resistivity Method, which provides valuable information about the resistivity layering beneath the site of measurement.

### **6.1 RESISTIVITY METHOD**

Vertical Electrical Soundings (VES) were conducted to investigate the subsurface conditions and confirm the presence and depth of potential aquifers. The method involves measuring the apparent resistivity of subsurface materials by injecting electrical current into the ground through a pair of electrodes and measuring the resulting potential difference with another pair of electrodes placed near the center. This configuration, typically using the Schlumberger Array, allows increasing depths of investigation as the electrode spacing is progressively expanded.

### **6.2 BASIC PRINCIPLES**

The electrical resistivity of rocks in the upper crust is primarily governed by lithology, porosity, degree of saturation, and the salinity of pore water. Saturated formations exhibit lower resistivity compared to dry or unsaturated rocks. High porosity and saline groundwater further reduce resistivity. Additionally, the presence of conductive minerals and clays also contributes to lower resistivity values.

By measuring the potential distribution created by the injected current, the apparent resistivity of subsurface layers is determined. These values are plotted on a log-log graph (apparent resistivity vs. electrode spacing) to generate a resistivity curve. For multi-layered subsurfaces, the observed curves are matched with standard master curves or interpreted using computer modeling software to estimate the resistivity and thickness of each layer.

This method is relatively insensitive to lateral heterogeneities and offers significant depth penetration, making it well-suited for identifying deep groundwater-bearing zones.

  
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### 6.3 GOVERNING EQUATIONS

The electrical resistance R of a material is given by:

$$R = \frac{Rs \cdot L}{A}$$

Where-

R= Resistivity

Rs= Specific resistivity (Ohm·m)

L= Length of the conductor

A= cross-sectional area

Using Ohm's Law:

$$R = \frac{dV}{I}$$

$$Rs = \frac{A}{L} \cdot \frac{dV}{I}$$

Where-

dV= potential difference

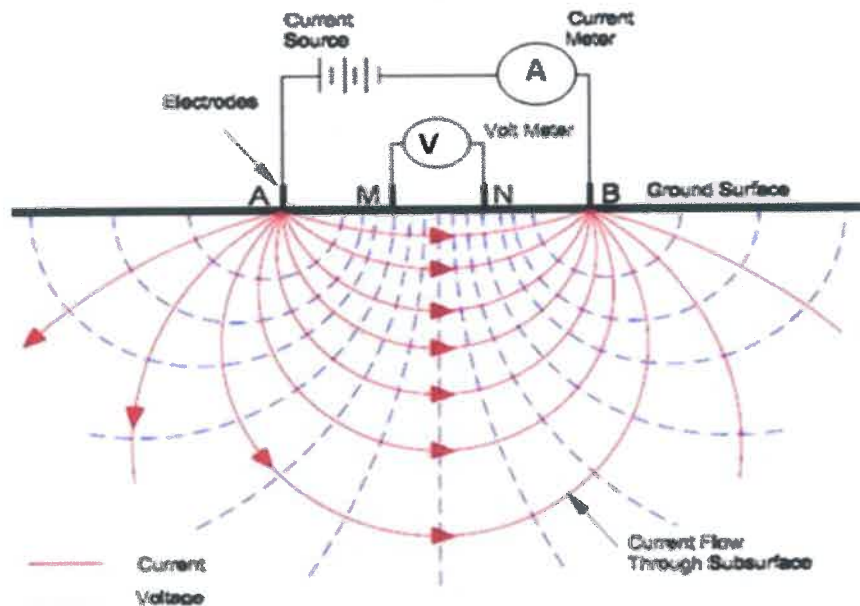
I= Current applied

Where  $R=V/I$  therefore 'V' is the potential difference created between the pair of potential electrodes P1 and P2 and 'I' is the current sent the ground through the current electrodes C1 and C2.

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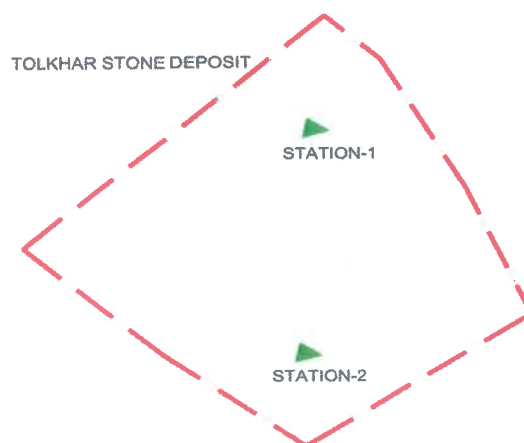
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**Fig: Electrical Resistivity Survey**

### 6.4 INTERPRETATION OF VES DATA

During VES, increasing the electrode spacing causes the current to penetrate deeper into the ground. The measured resistivity values, when plotted, reveal the vertical variation of subsurface resistivity. These curves, when interpreted with specialized software or matched with theoretical models, provide the hydrogeologist with critical information about geological layering, aquifer depth, and groundwater potential.



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# HYDROGEOLOGICAL STUDY REPORT OF TOLKHAR STONE DEPOSIT AREA-2.28ACRES, DIST-KODERMA, JHARKHAND

The lease Boundary & Station for Hydrogeological Survey of Tolkhari Stone Deposit. The Latitude and Longitude of Station Point are given Below:

| STATION | LATITUDE         | LONGITUDE        |
|---------|------------------|------------------|
| 1       | N 24° 24' 20.06" | E 85° 47' 34.02" |
| 2       | N 24° 24' 17.78" | E 85° 47' 33.93" |

| CONCLUSION OF GEOPHYSICAL DATA |          |          |             |             |                |        |                   |                                    |
|--------------------------------|----------|----------|-------------|-------------|----------------|--------|-------------------|------------------------------------|
| S.No.                          | AB/2 (m) | MN/2 (m) | Current (A) | Voltage (V) | Resistance (Ω) | K (m)  | Resistivity (Ω·m) | Material Type                      |
| 1                              | 5        | 1        | 0.5         | 22          | 44             | 75.40  | 3317              | Weathered/<br>Hard<br>Rock/Bedrock |
| 2                              | 7        | 1        | 0.5         | 28          | 56             | 150.80 | 8444              | Weathered/<br>Hard<br>Rock/Bedrock |
| 3                              | 10       | 2        | 0.5         | 40          | 80             | 150.80 | 12064             | Hard<br>Rock/Bedrock               |
| 4                              | 12       | 2        | 0.5         | 44          | 88             | 219.91 | 19352             | Hard<br>Rock/Bedrock               |
| 5                              | 15       | 3        | 0.5         | 50          | 100            | 226.19 | 22619             | Hard<br>Rock/Bedrock               |
| 6                              | 18       | 3        | 0.5         | 54          | 108            | 329.87 | 35625             | Hard<br>Rock/Bedrock               |
| 7                              | 22       | 4        | 0.5         | 58          | 116            | 367.57 | 42638             | Hard<br>Rock/Bedrock               |
| 8                              | 26       | 4        | 0.5         | 60          | 120            | 518.36 | 62203             | Hard<br>Rock/Bedrock               |
| 9                              | 30       | 5        | 0.5         | 60          | 120            | 549.78 | 65973             | Hard<br>Rock/Bedrock               |
| 10                             | 34       | 5        | 0.5         | 64          | 128            | 710.91 | 90996             | Hard<br>Rock/Bedrock               |
| 11                             | 37       | 6        | 0.5         | 70          | 140            | 698.21 | 97749             | Hard<br>Rock/Bedrock               |

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|    |    |   |     |    |     |         |        |                            |
|----|----|---|-----|----|-----|---------|--------|----------------------------|
| 12 | 40 | 6 | 0.5 | 72 | 144 | 819.21  | 117966 | Hard Rock/Bedrock          |
| 13 | 44 | 7 | 0.5 | 72 | 144 | 847.22  | 121999 | Hard Rock/Bedrock          |
| 14 | 48 | 7 | 0.5 | 72 | 144 | 1012.44 | 145791 | Hard Rock/Bedrock          |
| 15 | 52 | 7 | 0.5 | 72 | 144 | 1192.02 | 171650 | Hard Rock/Bedrock          |
| 16 | 56 | 7 | 0.5 | 74 | 148 | 1386.00 | 205128 | Hard Rock/Bedrock          |
| 17 | 60 | 8 | 0.5 | 74 | 148 | 1389.14 | 205592 | Hard Rock/Bedrock          |
| 18 | 64 | 8 | 0.5 | 74 | 148 | 1581.64 | 234082 | Hard Rock/Bedrock          |
| 19 | 68 | 8 | 0.5 | 74 | 148 | 1791.14 | 265088 | Hard Rock/Bedrock          |
| 20 | 71 | 8 | 0.5 | 76 | 152 | 1955.25 | 297198 | Hard Rock/Bedrock          |
| 21 | 74 | 8 | 0.5 | 76 | 152 | 2126.14 | 323173 | Hard Rock/Bedrock          |
| 22 | 78 | 8 | 0.5 | 40 | 80  | 2365.00 | 189200 | Encountered fractured zone |
| 23 | 82 | 8 | 0.5 | 25 | 50  | 2616.42 | 130821 | Water Zone                 |

Note-

**K (Geometrical Factor)** is calculated using the Schlumberger configuration formula:

$$K = \pi \times ((AB/2)^2 - (MN/2)^2) / (MN/2)$$

**Resistivity ( $\rho$ )** is derived from  $\rho = R \times K$

Note: AB/2= Depth from surface

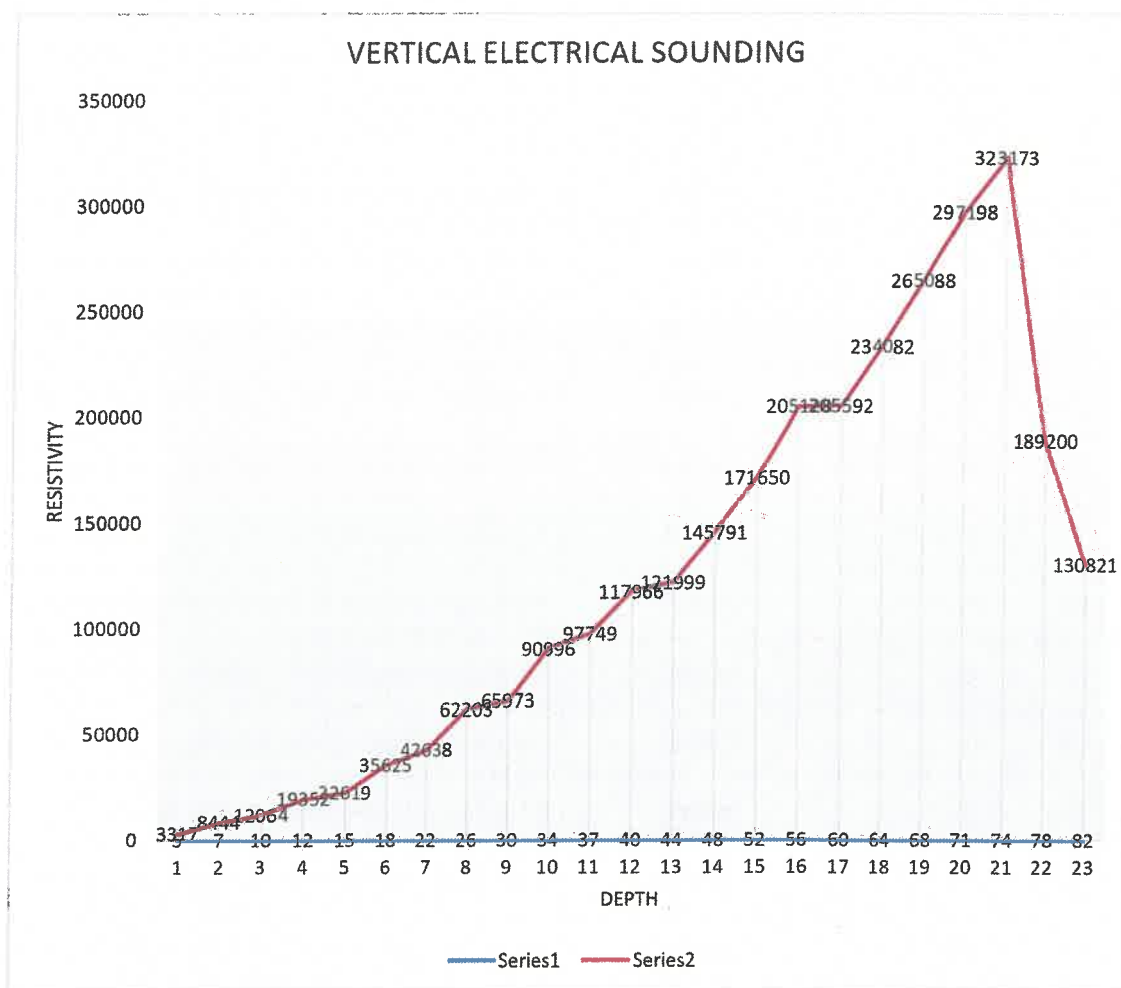
  
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**Analyze potential aquifers from your Vertical Electrical Sounding (VES) data**

| S. No | AB/2 (m) | Resistivity (Ω·m) | Interpretation                                    |
|-------|----------|-------------------|---------------------------------------------------|
| 1     | 5        | 3317              | Weathered/Soil zone – likely saturated            |
| 2     | 7        | 8444              | Increase in resistivity – less weathered rock     |
| 3     | 10       | 12064             | Very high – massive rock, unlikely to yield water |
| 4     | 12       | 19352             | Very high – massive rock, unlikely to yield water |
| 5     | 15       | 22619             | Very high – massive rock, unlikely to yield water |
| 6     | 18       | 35625             | Very high – massive rock, unlikely to yield water |
| 7     | 22       | 42638             | Very high – massive rock, unlikely to yield water |



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|    |    |        |                                                   |
|----|----|--------|---------------------------------------------------|
| 8  | 26 | 62203  | Very high – massive rock, unlikely to yield water |
| 9  | 30 | 65973  | Very high – massive rock, unlikely to yield water |
| 10 | 34 | 90996  | Very high – massive rock, unlikely to yield water |
| 11 | 37 | 97749  | Very high – massive rock, unlikely to yield water |
| 12 | 40 | 117966 | Very high – massive rock, unlikely to yield water |
| 13 | 44 | 121999 | Very high – massive rock, unlikely to yield water |
| 14 | 48 | 145791 | Very high – massive rock, unlikely to yield water |
| 15 | 52 | 171650 | Very high – massive rock, unlikely to yield water |
| 16 | 56 | 205128 | Very high – massive rock, unlikely to yield water |
| 17 | 60 | 205592 | Very high – massive rock, unlikely to yield water |
| 18 | 64 | 234082 | Very high – massive rock, unlikely to yield water |
| 19 | 68 | 265088 | Very high – massive rock, unlikely to yield water |
| 20 | 71 | 297198 | Very high – massive rock, unlikely to yield water |
| 21 | 74 | 323173 | Very high – massive rock, unlikely to yield water |
| 22 | 78 | 189200 | Encountered Fractured Zone                        |
| 23 | 82 | 130821 | Water Zone                                        |

## Aquifer Interpretation:

### 1st Layer (0–5 m):

- ❖ Moderately low resistivity
- ❖ Indicates Soil and weathered rock zone, possibly not saturated

### 2nd Layer (05-78m):

- ❖ High resistivity values indicate massive, compact crystalline rocks
- ❖ Low porosity and permeability
- ❖ Likely forms the aquifer base



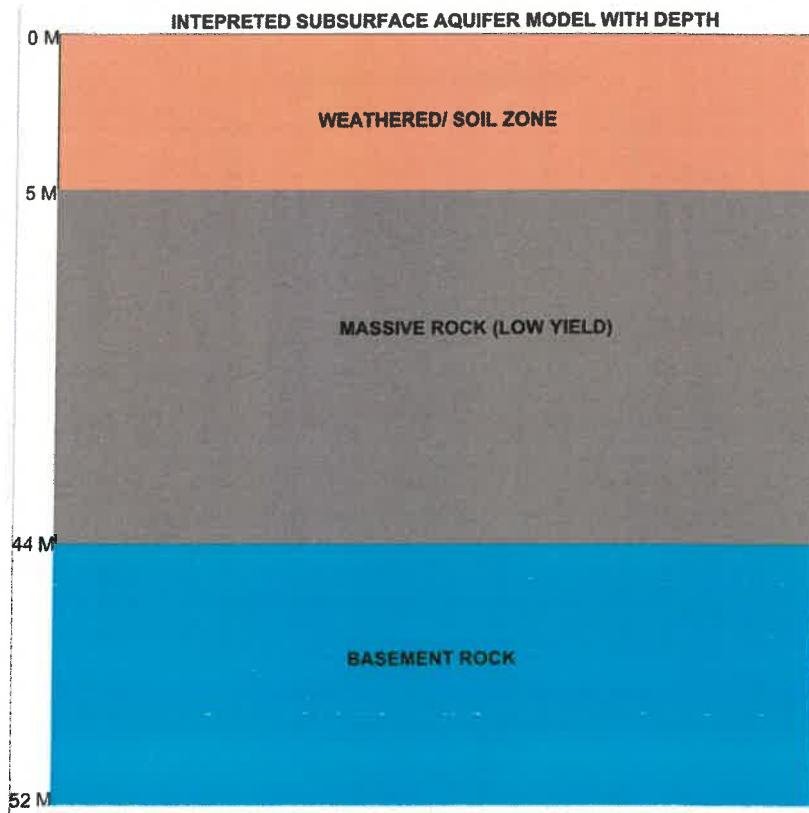
  
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### 3rd Layer (78–82 m):

- ❖ Slight Drop due to Low Resistivity
- ❖ Indicates deep hard rock with Minimal water potential
- ❖ Only useful if deep fractures are present



**Weathered Zone (0–5 m)** – Likely to hold no groundwater.

**Massive Rock (05–78 m)** – Hard Massive compact rock

**Basement Rock (78–82 m)** – At the base low resistivity fractured zone with good ground water yield

### 6.4 CONCLUSION

The hydrogeological investigation carried out in the study area, using Vertical Electrical Sounding (VES) methods, has provided valuable insights into the subsurface stratigraphy and groundwater potential. The survey revealed that the topmost layer, up to approximately 5 meters depth, comprises weathered material with moderate resistivity, suggesting a potential no aquifer zone

At greater depths (5 to 78 meters), the resistivity values increase significantly, reflecting the presence of massive, compact rock with minimal porosity and permeability.

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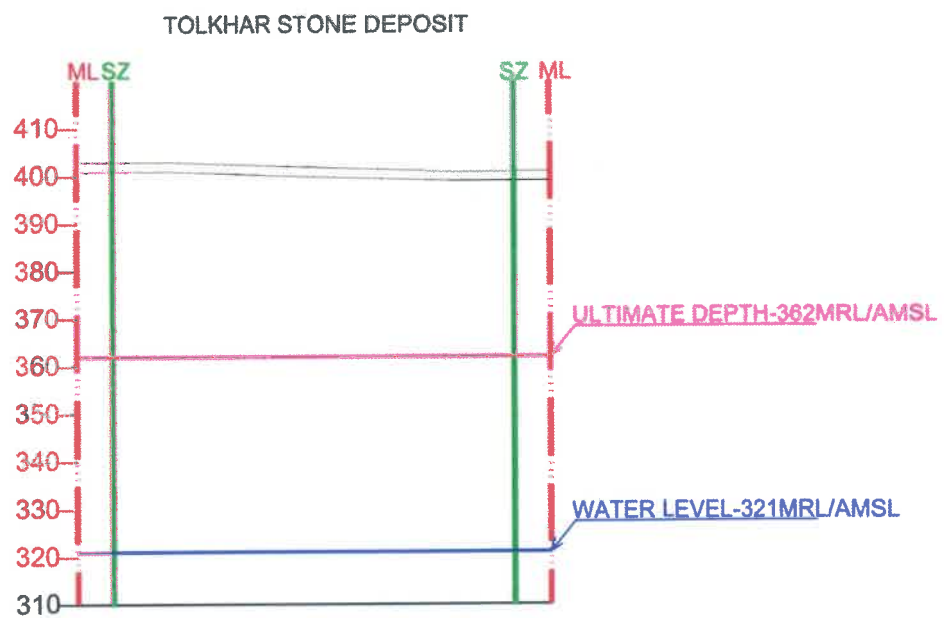


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This zone likely forms a transitional or barrier layer with poor groundwater potential. The deepest layer, below 78 meters, shows consistently high resistivity values, characteristic of dense basement rock, and is considered non-aquiferous under typical field conditions.

The applied lease area represents a small hillock with highest elevation level of around 403mRL above MSL was observed in central part of the lease area. The lowest elevation level is about 401mRL above MSL was observed in the south eastern part of the applied lease area



This is applied lease area and there is no quarry exists within the lease area. The proposed working of stone deposit has been planned up to maximum depth of 362mRL above MSL at Ultimate period. As per ground water study of the area the depth of ground water level is 321mRL above MSL. During the plan period and at ultimate stage, quarry excavation will not touch the water table.



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# RESISTIVITY REPORT

## OF RAIDIH STONE DEPOSIT OF

APPLICANT - M/S MAA SHANTI STONE QUARRY  
PARTNERS – SRI RANJEET KUMAR & SRI RAJESH GUPTA  
IN MOUZA– RAIDIH, THANA - NAWALSAHI,  
THANA NO. - 220, DISTRICT – KODERMA, JHARKHAND  
Area- 2.45 ACRES (0.99 HA)



*Prepared by:*



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✱

**RESISTIVITY REPORT OF RAIDIH STONE DEPOSIT**  
**APPLICANT -M/s MAA SHANTI STONE QUARRY**  
**PARTNERS – SRI RANJEET KUMAR & SRI RAJESH GUPTA**  
**IN MOUZA– RAIDIH, THANA - NAWALSAHI, THANA NO. - 220, DISTRICT – KODERMA,**  
**JHARKHAND (2.45 ACRES (0.99 HA))**

## **1. INTRODUCTION**

### **1.1 General**

Water is a critical resource for mining operations, serving purposes ranging from dust suppression to equipment cooling, and maintaining ecological balance in the surrounding environment. However, stone mining operations often face challenges in ensuring an adequate and sustainable water supply. Identifying aquifers and understanding the groundwater potential in the mining area is vital to address these challenges effectively.

Geophysical survey for hydrological study, especially those employing electrical resistivity techniques, have emerged as a reliable and non-invasive approach to explore subsurface water resources. These methods allow for mapping underground formations by measuring variations in their electrical resistivity, which helps distinguish water-bearing zones from surrounding rock strata. This process provides valuable insights into the availability and distribution of aquifers, aiding in water resource management and planning for mining operations.

The current study focuses on conducting a geophysical survey to identify aquifers and assess groundwater potential in the stone mining area. The electrical resistivity method has been chosen for its effectiveness in delineating subsurface features and its adaptability to varying geological conditions. The survey aims to provide detailed information on the location, depth, and potential yield of aquifers, supporting sustainable water use and compliance with environmental norms.

By integrating scientific techniques with practical needs, this study contributes to the sustainable management of water resources in stone mining operations, ensuring a balance between operational requirements and environmental stewardship. The results will serve as a foundation for informed decision-making and the development of effective water conservation strategies.





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### 1.2 Geo-Physical studies

A geophysical survey was conducted in the core area to investigate the geoelectrical characteristics of the study region. The survey focused on understanding the electrical resistivity or specific resistance of the subsurface materials. Electrical resistivity is defined as the resistance offered by a unit cube of material when a unit current flows perpendicular to its cross-sectional area. This property is governed by Ohm's law and is mathematically expressed as:

$$\rho = RA/L$$

Where,

$\rho$  = Resistivity

R= Resistance offered by the medium of length L

A= cross-sectional area

In Schlumberger arrangement of electrodes methods, the electrical resistance determined by applying an electric current (I) to the ground through a pair of current electrodes. A and B and the potential difference created in the medium between another part of potential electrode's M & N is measured. The Resistivity of the formation is given by

$$\rho = K^{-\Delta V/I}$$

“K” is termed the geometric factor of the electrode arrangement, and its computed as

$$K = \frac{\pi (AB/2)^2 - (MN/2)^2}{MN/2}$$

Where AB and MN are distances between the designated the designated electrodes

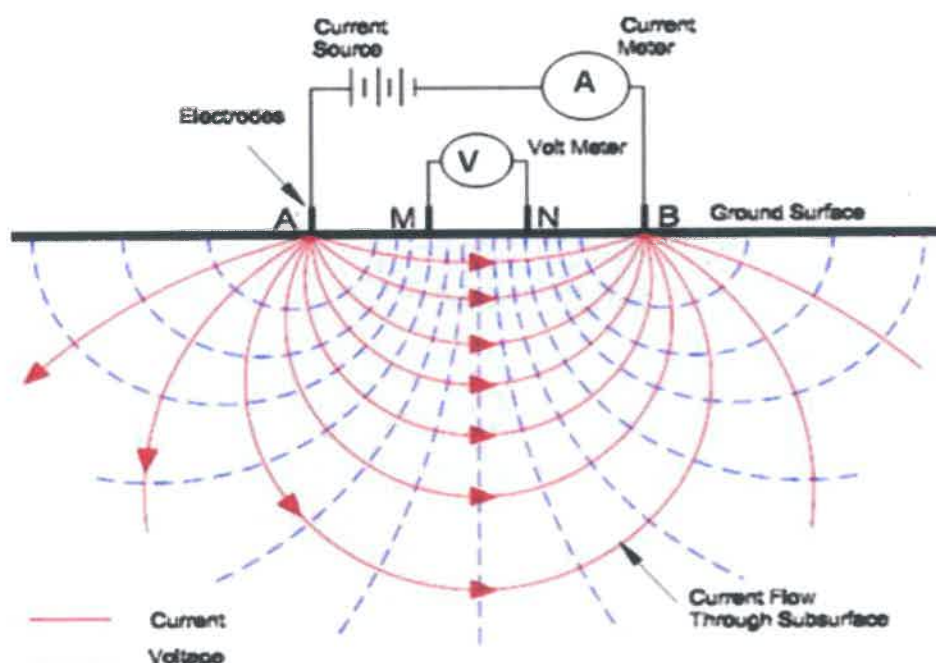
The apparent resistivity ( $\rho_a$ ) is given by “ $\rho_a = R \cdot K$ ”

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Where  $R=V/I$  therefore 'V' is the potential difference created between the pair of potential electrodes P1 and P2 and 'I' is the current sent the ground through the current electrodes C1 and C2.



**Fig: Electrical Resistivity Survey**

This methodology is particularly useful for analysing geological and hydrological conditions. Based on surface features, geological settings, and the results of the resistivity survey, specific locations in the mining area were selected for detailed investigations. The data collected were analysed to interpret the hydrological characteristics of the site.

The resistivity survey provided insights into the subsurface strata, including variations in rock types and water-bearing formations. These results are critical for evaluating the hydrological conditions of the project area, which directly impact the planning and management of mining operations. The survey also aids in identifying potential aquifers, estimating groundwater availability, and understanding the interaction between surface water and groundwater systems.

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### **1.3 Purpose of Resistivity study**

The geophysical resistivity survey plays a crucial role in identifying groundwater potential and mapping aquifer zones, which are essential for sustainable water resource management. By measuring the electrical resistivity of the subsurface, the survey provides valuable insights into the location and characteristics of aquifers. Understanding the depth and extent of these groundwater reserves is vital for ensuring that mining operations do not adversely affect local water resources.

Furthermore, the information gathered from the resistivity survey aids in planning the optimal layout of water conservation and drainage systems. Accurate mapping of aquifer zones allows for the design of effective drainage strategies that can mitigate issues such as water logging or excessive runoff during mining activities. This proactive approach helps maintain the integrity of the site while minimizing the environmental impact.

Additionally, the data obtained from the resistivity measurements can inform dewatering strategies, ensuring that groundwater is managed efficiently throughout the mining process. By integrating these insights into the planning stages, mining operations can enhance resource efficiency, reduce operational costs, and promote sustainable practices. Overall, the purpose of testing through geophysical resistivity is to safeguard groundwater resources while optimizing mining operations, contributing to a balanced approach to resource management.

### **1.4 Site Description**

The proposed Raidih Stone Deposit is located in Mouza – Raidih, Thana – Nawalsahi, District – Koderma, Jharkhand, covering an area of 2.45 acres (0.99 hectares). The lease area comprises non-forest, privately owned barren land, suitable for mining activities.

The study area falls within the Domchanch Block and is well connected by road, with the nearest approach road linked to State Highway (SH-13) at a distance of



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approximately 1.85 km. The region is accessible throughout the year, facilitating transportation of materials and machinery.

The terrain of the lease area is characterized by gently undulating to slightly sloping topography, with elevations ranging approximately between 376 m to 381 m AMSL.

The natural drainage of the area is controlled by seasonal nalas, with the Chando River located about 1.72 km away, acting as the nearest major drainage system.

The region experiences a sub-tropical climate with distinct summer, monsoon, and winter seasons. The average annual rainfall is around 1125 mm, primarily received during the monsoon months (June to September).

Geologically, the area is dominated by hard rock formations such as granite gneiss, dolerite, quartzite, phyllite, and schist.

The soil in the area mainly consists of lateritic, red, and yellow soils, which are generally thin and rest over the hard rock formations.

Groundwater in the region occurs within weathered and fractured zones of hard rock formations. The depth to water level varies seasonally, generally ranging from 3–10 m below ground level, with recharge mainly dependent on rainfall.

The site conditions, including non-forest barren land, favorable topography, and accessibility, make the area suitable for mechanized stone mining operations with minimal environmental constraints.



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## **2. METHODOLOGY**

The primary objective of the electrical resistivity survey at Raidih Stone Deposit is to investigate the subsurface electrical properties to identify aquifer zones, assess groundwater potential, and inform water management strategies. The survey will help map the distribution of subsurface resistivity and interpret it in the context of geological and hydrological features.

The primary instrument used for the electrical resistivity survey is a Resistivity Meter, a specialized device designed to measure the electrical properties of the subsurface. This device is connected to four electrodes placed strategically on the ground: two current electrodes (A and B) and two potential electrodes (M and N). The resistivity meter injects a direct current (DC) into the ground through the current electrodes, creating a potential field. It simultaneously measures the voltage difference between the potential electrodes and the injected current.

The device calculates the transfer resistance (R) using Ohm's Law ( $R = V/I$ ), which is later converted to apparent resistivity based on the electrode configuration. Advanced resistivity meters often include features like data stacking, polarity reversal, and noise reduction to improve measurement accuracy. Some models also support induced polarization measurements for additional subsurface characterization.

The resistivity meter used in the survey is portable, robust, and designed for field conditions. It allows for data logging and integrates seamlessly with processing software to produce 1D, 2D, or 3D resistivity models. Its ability to handle various electrode configurations ensures flexibility in adapting to site-specific requirements, making it an indispensable tool for geophysical investigations.



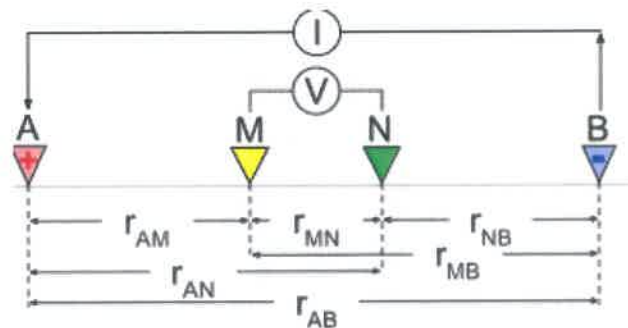
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## 2.1 Steps of Resistivity Study

### 2.1.1 Survey Design for Schlumberger Array Method

The electrical resistivity survey at Raidih Stone Deposit utilized the Schlumberger array configuration. In this method:

Two current electrodes (A and B) are positioned far apart to inject a direct current (DC) into the subsurface. Two potential electrodes (M and N) are placed closer together, centered between the current electrodes. Electrode spacing was systematically increased to probe different subsurface depths while maintaining fixed potential electrode spacing for higher sensitivity to vertical resistivity changes. Multiple measurements were taken along predefined survey lines covering various geological zones to ensure comprehensive data collection. This design balances depth penetration and resolution, making it ideal for the site's geological characterization.



**Fig: Schlumberger array Electrode spacing**

### 2.1.2 Equipment and Setup

The survey will utilize a resistivity meter capable of measuring current in Amperes and potential difference in Volts. Electrodes will be systematically spaced along predefined survey lines, with adjustments made based on the desired investigation depth and specific subsurface conditions. Prior to initiating the field survey, thorough calibration and testing of the equipment will be conducted to ensure optimal performance.





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### **2.1.2 Data Acquisition**

A direct current (DC) voltage will be applied across the current electrodes, creating a potential field in the subsurface. The voltage difference across the potential electrodes will be recorded alongside the injected current. Measurements will be averaged over multiple cycles to enhance accuracy, incorporating polarity reversal to minimize systematic errors.

### **2.1.3 Data Processing**

The recorded resistances will be converted to apparent resistivity ( $\rho_a$ ) using the geometric factor (K) specific to the Schlumberger configuration. Apparent resistivity values will be plotted to create 1D, 2D, or 3D distributions of the subsurface electrical properties, providing a detailed overview of the geological features.

### **2.1.4 Data Interpretation**

Resistivity profiles will be interpreted to delineate subsurface layers, identify **aquifer zones**, and assess lithological variations. Key factors such as porosity, saturation, and water chemistry will be integrated into the analysis. Anomalies indicating high-resistivity zones (e.g., stone deposits) or low-resistivity zones (e.g., water-bearing layers) will be specifically highlighted.

### **2.1.5 Quality Assurance and Validation**

Throughout the survey, data quality will be monitored, with repeat measurements taken as needed to verify consistency. Results will be cross-validated with existing geological and hydrological data to ensure accuracy and reliability in the findings from the Bada Amra Stone Deposit survey.



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### 3. Result & Interpretation

Calculation Approach:

**Resistivity Formula:  $\rho_a = K \cdot \Delta V / I$**

Where,  $\rho_a$  = Apparent Resistivity

K= Geometrical factor

$\Delta V$ = Measured potential difference (V)

I= Applied Current

**Table 1: Resistivity Data for Schlumberger Configuration**

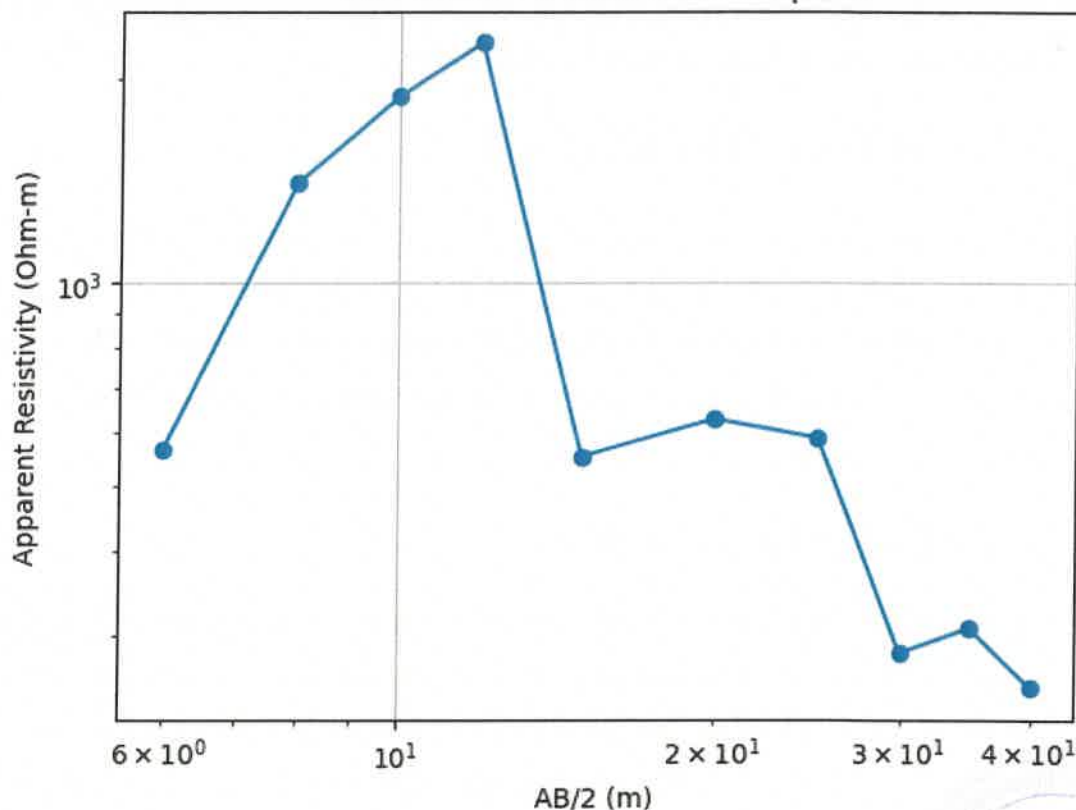
| S. No. | AB/2 (m) | MN/2 (m) | Current (I) (A) | Voltage (V) | Resistance (R) ( $\Omega$ ) | Geometrical Factor (K) (m) | Resistivity ( $\Omega \cdot m$ ) | Material type found |
|--------|----------|----------|-----------------|-------------|-----------------------------|----------------------------|----------------------------------|---------------------|
| 1      | 6        | 1        | 0.5             | 25          | 50                          | 113.1                      | 565.5                            | Stone               |
| 2      | 8        | 1        | 0.5             | 35          | 70                          | 201.1                      | 1407.7                           | Stone               |
| 3      | 10       | 1        | 0.5             | 30          | 60                          | 314.2                      | 1885.2                           | Stone Slit          |
| 4      | 12       | 1        | 0.5             | 25          | 50                          | 452.4                      | 2262.0                           | Stone Slit          |
| 5      | 15       | 5        | 0.5             | 20          | 40                          | 138.2                      | 552.8                            | Stone Slit          |
| 6      | 20       | 5        | 0.5             | 12.5        | 25                          | 251.3                      | 628.3                            | Stone Slit          |
| 7      | 25       | 5        | 0.5             | 7.5         | 15                          | 392.7                      | 589.1                            | Stone Slit          |
| 8      | 30       | 5        | 0.5             | 5           | 10                          | 565.5                      | 282.8                            | Clay                |
| 9      | 35       | 5        | 0.5             | 4           | 8                           | 770.1                      | 308.0                            | Water Zone          |
| 10     | 40       | 5        | 0.5             | 2.5         | 5                           | 1005.3                     | 251.2                            | Water Zone          |

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**VES Curve - Raidih Stone Deposit**



**Fig: Graphical Prestation**

**Interpretation:**

A resistivity survey using the Schlumberger configuration was carried out along the study area, covering an elevation range from 487 m to 432 m above mean sea level (AMSL). The subsurface investigation reveals a well-stratified geological sequence comprising stone, stone silt, clay, and groundwater-bearing formations. The interpretation of resistivity data indicates distinct subsurface layers characterized by varying resistivity values, reflecting differences in lithology and moisture content.

**1. Stone Layer (487 m – 450 m AMSL)**

The uppermost layer, extending from 487 m to 450 m AMSL, consists predominantly of compact and massive stone formation. This layer exhibits high resistivity values (>550 Ω·m), indicating its dry, dense, and non-porous nature. The compact structure





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restricts water infiltration and results in low permeability, making this layer largely impermeable and resistant to electrical current flow.

**2. Stone Silt Layer (450 m – 443 m AMSL)**

Beneath the stone layer lies the stone silt layer, occurring between 450 m and 443 m AMSL. This zone shows moderately lower resistivity values ( $\sim 500\text{--}700 \Omega\cdot\text{m}$ ), suggesting the presence of semi-compact and partially weathered material. The reduced resistivity indicates limited moisture content and increased porosity compared to the overlying stone layer.

**3. Clay Layer (443 m – 435 m AMSL)**

The third layer, extending from 443 m to 435 m AMSL, is composed mainly of clayey material. This zone is characterized by a significant reduction in resistivity ( $\sim 300\text{--}600 \Omega\cdot\text{m}$ ) due to the fine-grained nature and high moisture retention capacity of clay. The layer acts as a semi-permeable transition zone, facilitating the movement and storage of groundwater in the underlying strata.

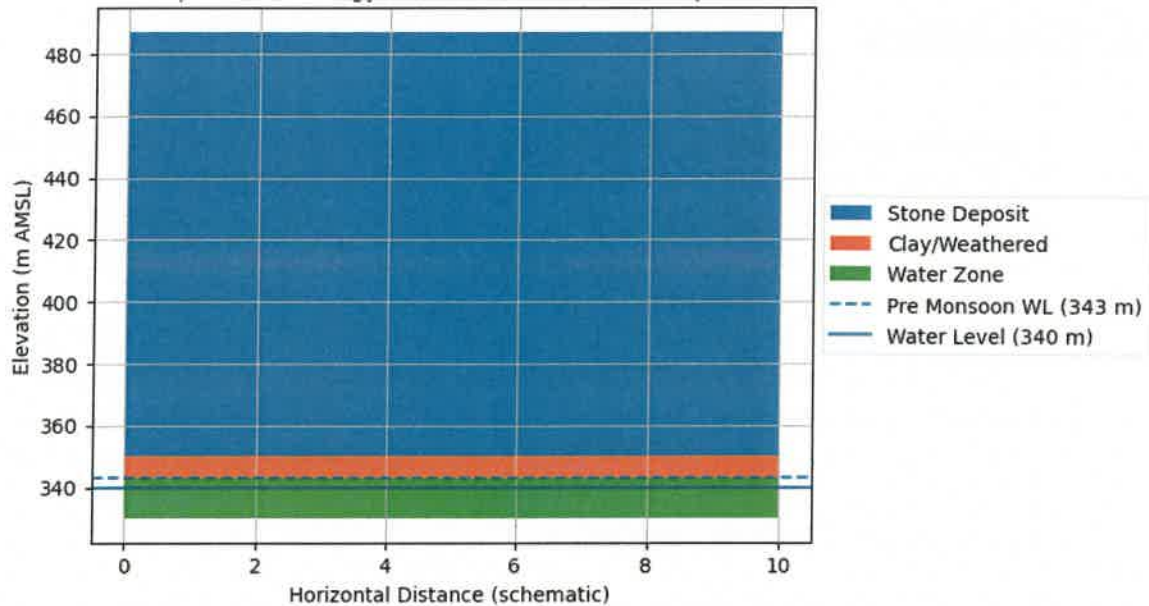
**4. Water-Bearing Zone (435 m – 432 m AMSL)**

The lowermost layer, between 435 m and 432 m AMSL, represents the groundwater-bearing zone. This stratum is identified by a further decrease in resistivity values ( $\sim 200\text{--}300 \Omega\cdot\text{m}$ ), indicating fully saturated conditions. The sharp decline in resistivity confirms the presence of groundwater within fractured or porous formations, making this zone significant for water availability.

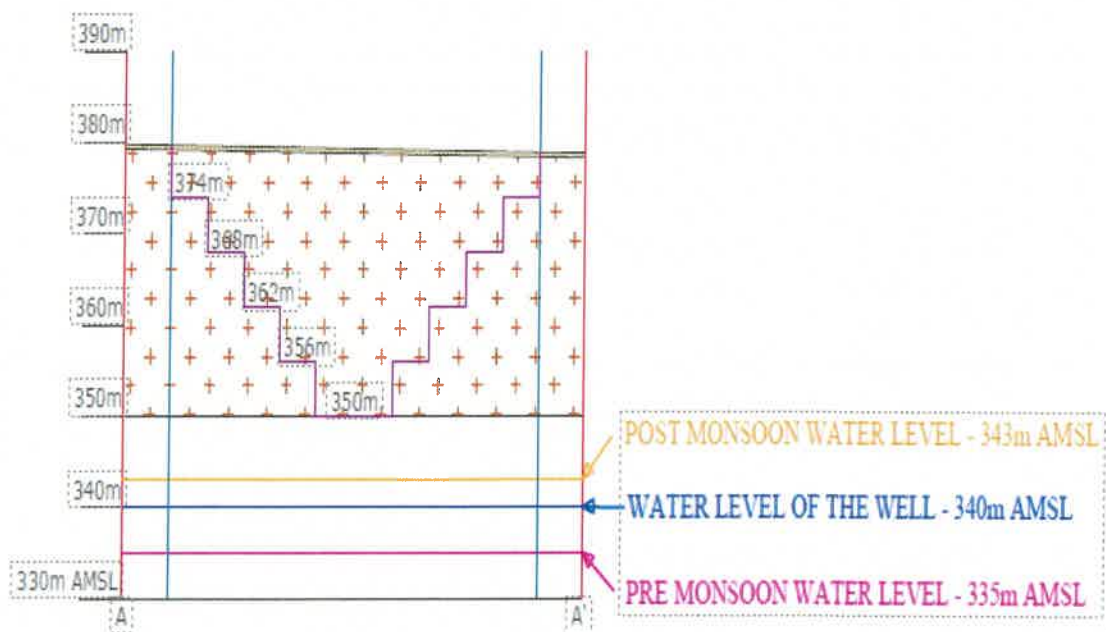




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**Fig: Lithology Mosaic of Raidih Stone Deposit**



**Fig: Ground Water Scenario of Raidih Stone Deposit**



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#### **4. Conclusion**

A geophysical investigation using the Schlumberger Vertical Electrical Sounding (VES) method was carried out in the Raidih Stone Deposit area to delineate subsurface lithology and identify groundwater potential zones. The survey was conducted over the lease area covering an elevation range of approximately 487 m to 432 m AMSL.

The interpretation of resistivity data reveals a multi-layered subsurface profile characterized by variations in resistivity values corresponding to different geological formations. The uppermost layer shows high resistivity values ( $>550 \Omega \cdot m$ ), indicating the presence of compact and massive stone formation, which is dry, dense, and exhibits low porosity and permeability. This layer acts as a relatively impermeable zone with limited groundwater storage potential.

Below this, a stone silt/weathered zone is identified with moderate resistivity values ( $\sim 500\text{--}700 \Omega \cdot m$ ). This layer represents partially weathered and fractured material with moderate porosity, allowing limited infiltration and movement of groundwater.

The third layer is composed of clayey material, showing a significant decrease in resistivity values ( $\sim 300\text{--}600 \Omega \cdot m$ ). This reduction is attributed to the fine-grained nature and higher moisture retention capacity of clay, which acts as a transitional zone facilitating groundwater movement.

At greater depths, a low resistivity zone ( $\sim 200\text{--}300 \Omega \cdot m$ ) is observed, indicating the presence of a water-bearing formation within fractured and weathered rock. This zone represents the principal aquifer in the area.

The hydrological assessment of the Raidih Stone Deposit (2.45 acres), District Koderma, Jharkhand indicates that the area is underlain by hard rock formations with groundwater occurrence primarily within weathered and fractured zones.

Based on field observations, well data, and resistivity interpretation, the groundwater table in the study area is observed at approximately 340 m AMSL, with seasonal variation ranging from 335 m AMSL (pre-monsoon) to 343 m AMSL (post-monsoon).

The proposed ultimate pit depth is 350 m AMSL, which is located above the groundwater table. Therefore, the planned mining operations will not intersect the groundwater regime.







# RESISTIVITY REPORT

## OF THAM STONE DEPOSIT OF

APPLICANT-M/s FRIENDS MINING UNIT  
PROPRIETOR – SRI VIVEK DIPT OM

IN MOUZA- THAM, THANA - CHANDWARA,  
THANA NO - 317, DISTRICT- KODERMA, JHARKHAND  
Area- 2.4825 ACRES (1.0046 HA)



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The current study focuses on conducting a geophysical survey to identify aquifers and assess groundwater potential in the stone mining area. The electrical resistivity method has been chosen for its effectiveness in delineating subsurface features and its adaptability to varying geological conditions. The survey aims to provide detailed information on the location, depth, and potential yield of aquifers, supporting sustainable water use and compliance with environmental norms.

By integrating scientific techniques with practical needs, this study contributes to the sustainable management of water resources in stone mining operations, ensuring a balance between operational requirements and environmental stewardship. The results will serve as a foundation for informed decision-making and the development of effective water conservation strategies.





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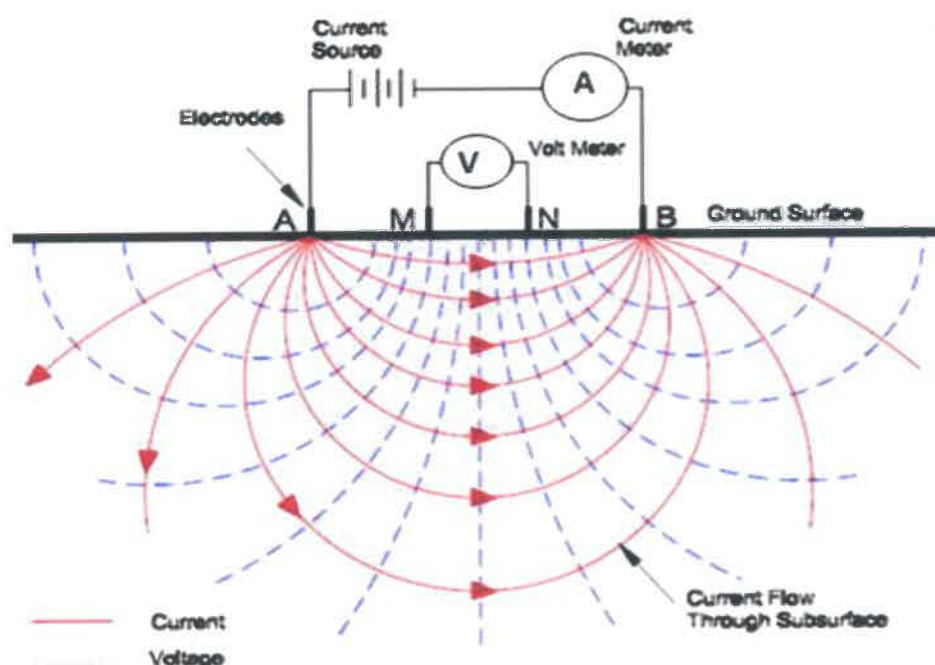
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**IN MOUZA- THAM, THANA - CHANDWARA, THANA NO - 317, DISTRICT- KODERMA,**  
**JHARKHAND. Area- 2.4825 ACRES (1.0046 HA)**

The project falls under the Chandwara Block and is well connected through an approach road linked to the Chandwara–Bachhsi road, situated approximately 3.0 km away, ensuring easy accessibility for transportation of materials and equipment.

The lease area exhibits gently sloping terrain with elevation ranging from approximately 383 m to 387 m AMSL, indicating minor relief variation across the site.

The drainage of the region is governed by seasonal nalas, while the Margoja River, located about 2.89 km from the site, acts as the nearest major drainage system.

The area experiences a sub-tropical climatic condition with hot summers, moderate winters, and a monsoon season. The average annual rainfall is about 1125 mm, mainly received during the monsoon period.

Geologically, the area is dominated by hard rock formations such as granite gneiss, dolerite, quartzite, phyllite, and schist.

The soil cover mainly consists of lateritic, red, and yellow soils, which are generally thin and rest over the hard rock formation.

Groundwater in the region occurs mainly in weathered and fractured zones of hard rock formations. The depth to water level varies seasonally, generally ranging from 3 to 10 m below ground level, depending on rainfall and recharge conditions.

The site is suitable for mining due to its non-forest barren land, favorable topography, accessible location, and stable geological conditions, making it appropriate for mechanized stone extraction with minimal environmental constraints.





**RESISTIVITY REPORT OF THAM STONE DEPOSIT**  
**APPLICANT-M/s FRIENDS MINING UNIT**  
**PROPRIETOR – SRI VIVEK DIPT OM**  
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## **2. METHODOLOGY**

The primary objective of the electrical resistivity survey at Tham Stone Deposit is to investigate the subsurface electrical properties to identify aquifer zones, assess groundwater potential, and inform water management strategies. The survey will help map the distribution of subsurface resistivity and interpret it in the context of geological and hydrological features.

The primary instrument used for the electrical resistivity survey is a Resistivity Meter, a specialized device designed to measure the electrical properties of the subsurface. This device is connected to four electrodes placed strategically on the ground: two current electrodes (A and B) and two potential electrodes (M and N). The resistivity meter injects a direct current (DC) into the ground through the current electrodes, creating a potential field. It simultaneously measures the voltage difference between the potential electrodes and the injected current.

The device calculates the transfer resistance (R) using Ohm's Law ( $R = V/I$ ), which is later converted to apparent resistivity based on the electrode configuration. Advanced resistivity meters often include features like data stacking, polarity reversal, and noise reduction to improve measurement accuracy. Some models also support induced polarization measurements for additional subsurface characterization.

The resistivity meter used in the survey is portable, robust, and designed for field conditions. It allows for data logging and integrates seamlessly with processing software to produce 1D, 2D, or 3D resistivity models. Its ability to handle various electrode configurations ensures flexibility in adapting to site-specific requirements, making it an indispensable tool for geophysical investigations.



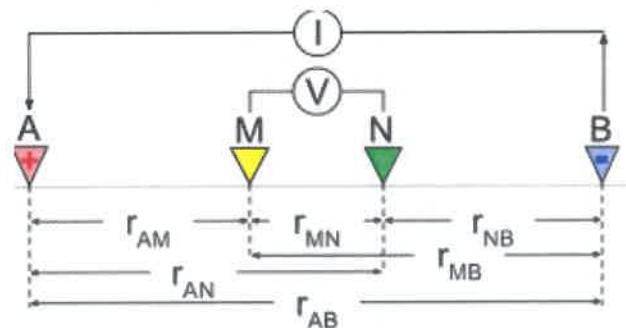
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## 2.1 Steps of Resistivity Study

### 2.1.1 Survey Design for Schlumberger Array Method

The electrical resistivity survey at Tham Stone Deposit utilized the Schlumberger array configuration. In this method:

Two current electrodes (A and B) are positioned far apart to inject a direct current (DC) into the subsurface. Two potential electrodes (M and N) are placed closer together, cantered between the current electrodes. Electrode spacing was systematically increased to probe different subsurface depths while maintaining fixed potential electrode spacing for higher sensitivity to vertical resistivity changes. Multiple measurements were taken along predefined survey lines covering various geological zones to ensure comprehensive data collection. This design balances depth penetration and resolution, making it ideal for the site's geological characterization.



**Fig: Schlumberger array Electrode spacing**

### 2.1.2 Equipment and Setup

The survey will utilize a resistivity meter capable of measuring current in Amperes and potential difference in Volts. Electrodes will be systematically spaced along predefined survey lines, with adjustments made based on the desired investigation depth and specific subsurface conditions. Prior to initiating the field survey, thorough calibration and testing of the equipment will be conducted to ensure optimal performance.





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### **2.1.2 Data Acquisition**

A direct current (DC) voltage will be applied across the current electrodes, creating a potential field in the subsurface. The voltage difference across the potential electrodes will be recorded alongside the injected current. Measurements will be averaged over multiple cycles to enhance accuracy, incorporating polarity reversal to minimize systematic errors.

### **2.1.3 Data Processing**

The recorded resistances will be converted to apparent resistivity ( $\rho_a$ ) using the geometric factor (K) specific to the Schlumberger configuration. Apparent resistivity values will be plotted to create 1D, 2D, or 3D distributions of the subsurface electrical properties, providing a detailed overview of the geological features.

### **2.1.4 Data Interpretation**

Resistivity profiles will be interpreted to delineate subsurface layers, identify **aquifer zones**, and assess lithological variations. Key factors such as porosity, saturation, and water chemistry will be integrated into the analysis. Anomalies indicating high-resistivity zones (e.g., stone deposits) or low-resistivity zones (e.g., water-bearing layers) will be specifically highlighted.

### **2.1.5 Quality Assurance and Validation**

Throughout the survey, data quality will be monitored, with repeat measurements taken as needed to verify consistency. Results will be cross-validated with existing geological and hydrological data to ensure accuracy and reliability in the findings from the Tham Stone Deposit survey.



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### 3. Result & Interpretation

Calculation Approach:

**Resistivity Formula:  $\rho_a = K \cdot \Delta V / I$**

Where,  $\rho_a$  = Apparent Resistivity

K = Geometrical factor

$\Delta V$  = Measured potential difference (V)

I = Applied Current

**Table 1: Resistivity Data for Schlumberger Configuration**

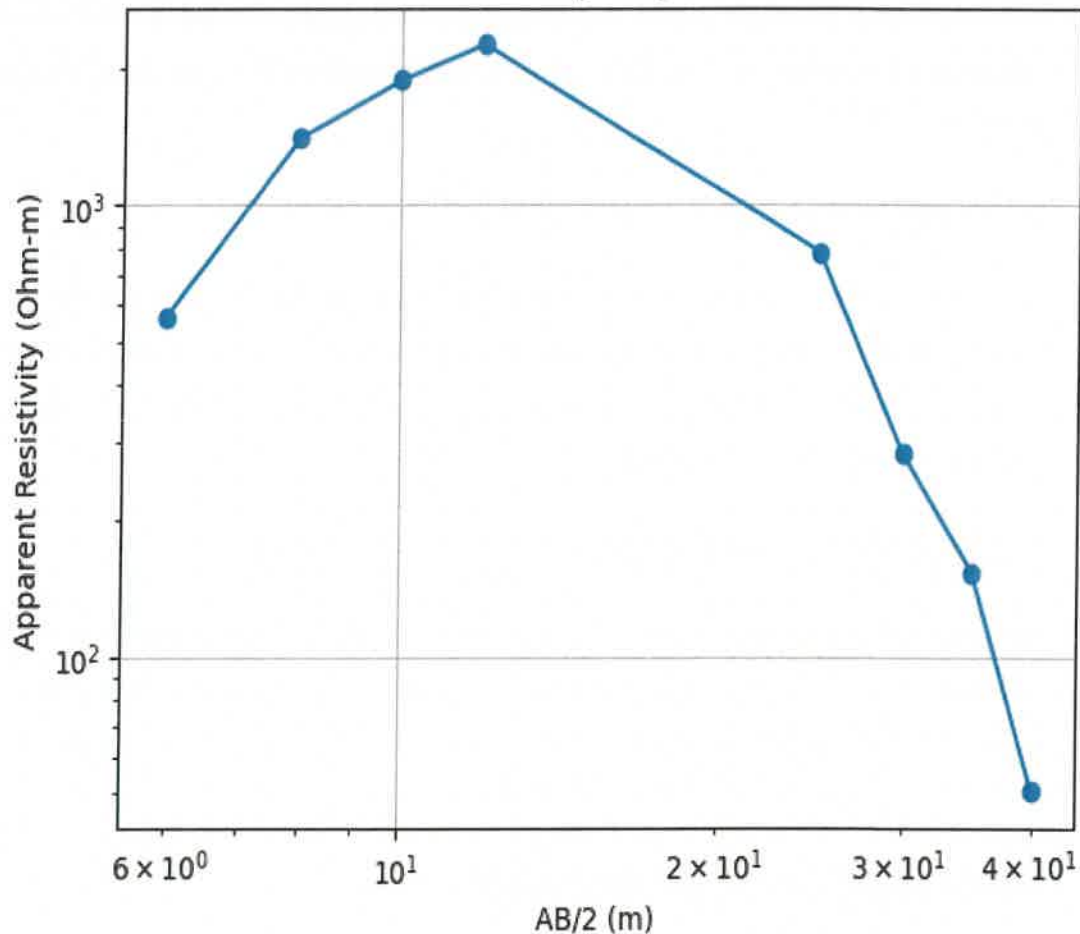
| S. No. | AB/2 (m) | MN/2 (m) | Current (I) (A) | Voltage (V) | Resistance (R) ( $\Omega$ ) | Geometrical Factor (K) (m) | Resistivity ( $\Omega \cdot m$ ) | Material type found |
|--------|----------|----------|-----------------|-------------|-----------------------------|----------------------------|----------------------------------|---------------------|
| 1      | 6        | 1        | 0.5             | 25          | 50                          | 113.1                      | 565.5                            | Stone               |
| 2      | 8        | 1        | 0.5             | 35          | 70                          | 201.1                      | 1407.7                           | Stone               |
| 3      | 10       | 1        | 0.5             | 30          | 60                          | 314.2                      | 1885.2                           | Stone               |
| 4      | 12       | 1        | 0.5             | 25          | 50                          | 452.4                      | 2262.0                           | Stone               |
| 5      | 25       | 5        | 0.5             | 20          | 40                          | 392.7                      | 785.4                            | Stone               |
| 6      | 30       | 5        | 0.5             | 15          | 30                          | 565.5                      | 282.8                            | Stone               |
| 7      | 35       | 5        | 0.5             | 10          | 20                          | 770.1                      | 154.0                            | Clay                |
| 8      | 40       | 5        | 0.5             | 5           | 10                          | 1005.3                     | 50.3                             | Water               |

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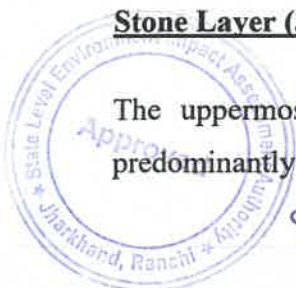
**Fig: Graphical Prestation**

**Interpretation:**

The Schlumberger resistivity survey was carried out in the Tham Stone Deposit area, covering an elevation range from approximately 387 m to 340 m AMSL. The survey reveals a stratified subsurface formation consisting of stone, weathered/fractured zones, clay, and groundwater-bearing layers. The interpretation of resistivity data indicates distinct layers with varying resistivity values corresponding to lithological variations.

**Stone Layer (387 m – 360 m AMSL)**

The uppermost layer, extending from 387 m to 360 m AMSL, is composed predominantly of compact and massive stone formation. This layer exhibits high



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resistivity values ( $\sim 565$  to  $2262 \Omega \cdot m$ ), indicating its dry, dense, and non-porous nature. The compact structure restricts water infiltration and represents a hard, impermeable formation.

**Weathered/Fractured Stone Layer (360 m – 350 m AMSL)**

Below the compact stone layer, a weathered and fractured zone is observed between 360 m and 350 m AMSL, showing moderate resistivity ( $\sim 700$ – $800 \Omega \cdot m$ ). This layer indicates partial weathering and development of fractures, allowing limited groundwater movement and storage.

**Clay Layer (350 m – 345 m AMSL)**

The next layer, extending from 350 m to 345 m AMSL, is dominated by clayey material, with resistivity values decreasing to around  $\sim 150$ – $300 \Omega \cdot m$ . This reduction reflects the fine-grained nature and higher moisture retention capacity of clay. This layer acts as a semi-permeable transition zone.

**Water-Bearing Zone (345 m – 340 m AMSL)**

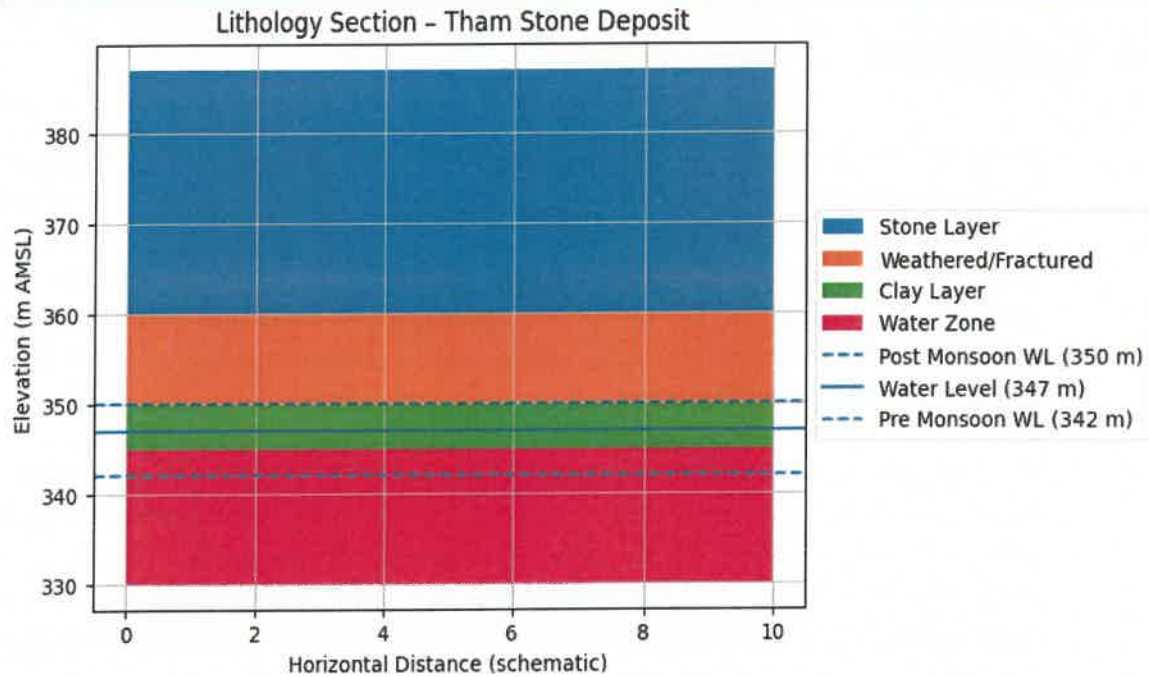
The lowermost layer, between 345 m and 340 m AMSL, represents the groundwater-bearing zone, characterized by very low resistivity ( $\sim 50$ – $100 \Omega \cdot m$ ). This significant drop confirms the presence of saturated formation, likely within fractured rock or porous zones.



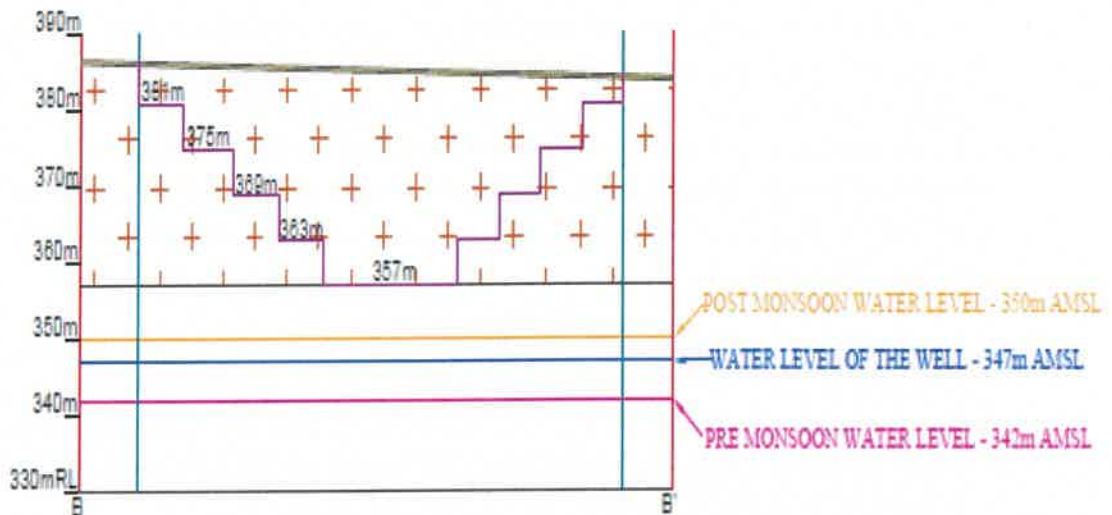
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**Fig: Lithology Mosaic of Tham Stone Deposit**



**Fig: Ground Water Scenario of Tham Stone Deposit**





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#### **4. Conclusion**

Based on the interpretation of resistivity survey data, geological conditions, and hydrogeological analysis, the Tham Stone Deposit area is characterized by hard rock formations comprising compact stone at shallow depths, underlain by weathered, fractured, and clayey zones at deeper levels. The resistivity results clearly indicate a transition from high resistivity values in the upper compact stone layer to low resistivity values in the deeper saturated zone, confirming the presence of groundwater within fractured and weathered formations.

The hydrogeological assessment reveals that groundwater occurrence in the area is mainly controlled by secondary porosity developed due to weathering and fracturing of hard rocks such as granite gneiss, schist, and quartzite. The groundwater table in the study area is observed at approximately 347 m AMSL, with seasonal fluctuations ranging from 342 m AMSL during pre-monsoon to 350 m AMSL during post-monsoon conditions.

The proposed mining operation is planned up to an ultimate pit depth of 357 m AMSL, which is below the existing groundwater table. This indicates that as mining progresses to deeper levels, the excavation will intersect the groundwater table, leading to inflow of water into the mine pit.

Therefore, it is anticipated that groundwater ingress will occur during the later stages of mining operations, particularly during and after the monsoon season when the water table rises. To ensure safe and efficient mining, proper dewatering measures such as the development of sumps, installation of pumping systems, and provision of adequate drainage arrangements will be essential. Additionally, continuous monitoring of groundwater levels is recommended to assess seasonal variations and manage water inflow effectively.

In conclusion, while the site is suitable for stone mining from geological and operational perspectives, appropriate groundwater management practices must be implemented, as mining activities are expected to intersect the groundwater table. With proper planning and mitigation measures, the impact on groundwater can be effectively controlled, ensuring sustainable and safe mining operations.



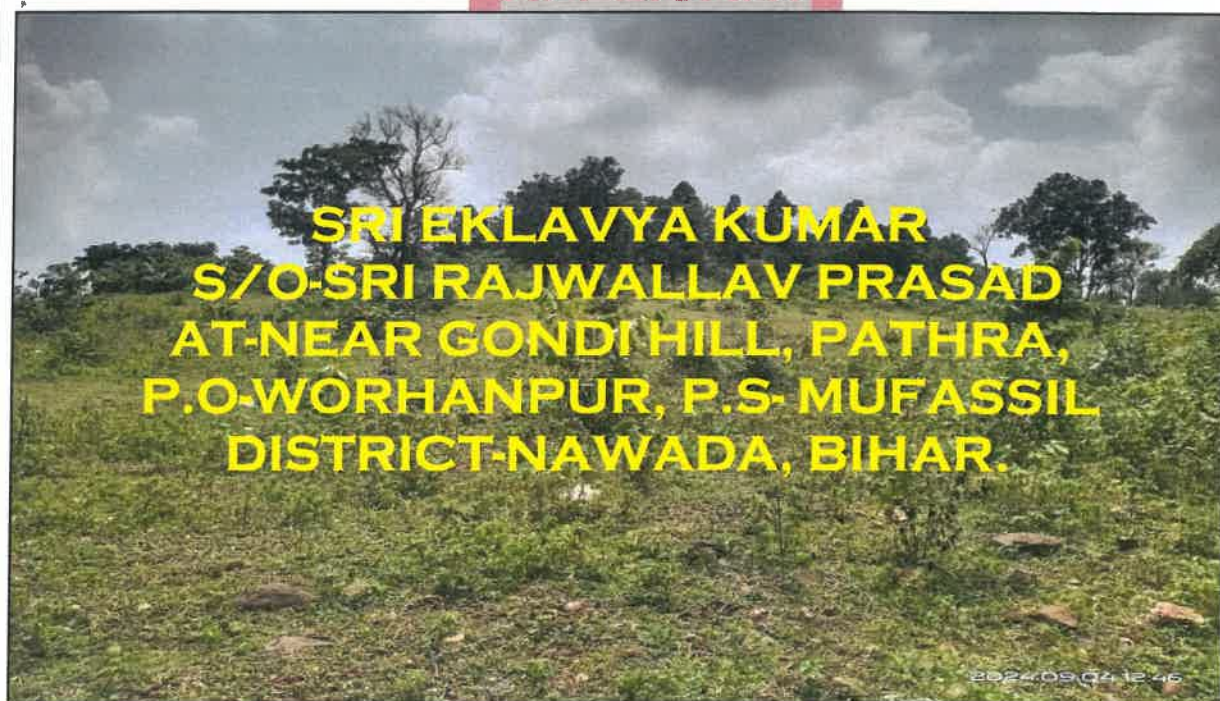


# **HYDROGEOLOGICAL STUDY REPORT**

## **OF**

# **DAHUATOLA STONE DEPOSIT**

**APPLICANT**



**SRI EKLAVYA KUMAR  
S/O-SRI RAJWALLAV PRASAD  
AT-NEAR GONDI HILL, PATHRA,  
P.O-WORHANPUR, P.S-MUFASSIL  
DISTRICT-NAWADA, BIHAR.**

**PREPARED BY:**

**DR. ANAL K SINHA**

**M.Sc, M.Tech, PhD & LLB**

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# HYDROGEOLOGICAL STUDY REPORT OF DAHUATOLA STONE DEPOSIT AREA-2.65ACRES, DIST-KODERMA, JHARKHAND

## **1. INTRODUCTION**

Groundwater is one of the most vital natural resources, especially in regions where surface water availability is limited or seasonal. Its sustainable management requires a thorough understanding of the hydrogeological setting of the area. The primary objective of the present study is to evaluate the availability and potential of groundwater resources in the area. This includes an assessment of the depth to potential aquifers, identification of aquifer types, estimation of possible yields, and evaluation of groundwater quality. To achieve this, all available hydrogeological information relevant to the study area has been thoroughly analyzed, supplemented by a geophysical survey to enhance subsurface understanding.

The investigation involved an integrated approach comprising hydrogeological and geophysical fieldwork, supported by a detailed analysis of existing geological and hydrogeological data. Relevant data were systematically collected, compiled, and interpreted to develop a comprehensive understanding of the subsurface conditions. This approach enabled the identification of aquifer zones, assessment of their characteristics, and evaluation of their capacity to support sustainable groundwater development.

The study area has been witnessing increasing dependence on groundwater due to rapid population growth, agricultural intensification, and industrial expansion. This has led to growing concerns about the long-term sustainability of the groundwater resources. A systematic evaluation of the geological formations, aquifer characteristics, groundwater levels, flow patterns, and recharge conditions is therefore essential for planning effective water resource management strategies.

The main objectives of this study are to delineate the aquifer systems present in the area to know the depth of water table. The excavation of stone shall be done in depth. So, electrical resistivity method prevent the mining operation in water bearing zone.

The methodology adopted for this investigation includes collection and analysis of secondary data, field surveys, well inventory, water level monitoring, water quality analysis, and interpretation of geological and hydrogeological data. This comprehensive approach provides a scientific basis for evaluating the status of groundwater resources and suggesting appropriate management practices.



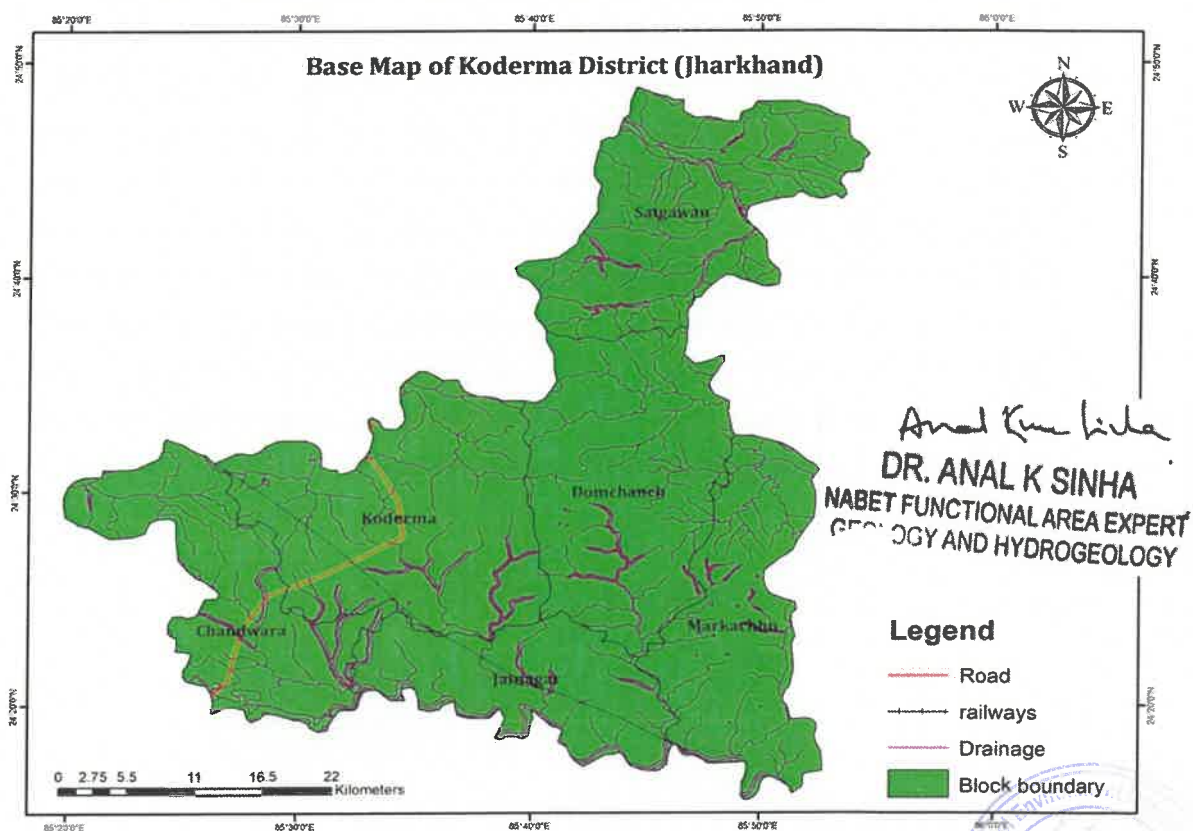
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## 2. PHYSIOGRAPHY

### Administration

The district has been famous for rich mica deposits and is also known as Abhrakh Nagri. It is essentially an under-developed , thinly populated district having varied but limited endowment of natural resources. Koderma district is located in the northern part of North Chhotanagpur Commissioner and is bounded by Nawada and Gaya district of Bihar state in the north west and west, Chatra and Hazaribag districts in the south west and Giridih district in the east . It is located between 24° 15' 58.4'' to 24° 48' 56.5'' N Latitude and 85° 17' 07'' to 85° 56' 22.58'' E Longitude. It is covered under Survey of India Toposheets nos. 72H/6, 7, 9, 10, 11, 13,14 & 15. It comprises geographical area about 1496.70 sqkm. Certain rivers/nadies form natural border of Koderma district viz. Mohana in south west, Leriya in southern, Barsoti nadi in south eastern, Jamui in the eastern, Jharna nadi in north west and Tillaiya nadi in central southern border. Koderma district has one Sub-division, Kodarma itself and 6 (Six) developmental administration the district is divided into 6 (Six) developmental blocks namely: Koderma, Jainagar, Chandwara, Markachho, Domchanch and Satgawan. There are 717 (Seven Hundred Seventeen) Villages and 109 (One Hundred Nine) Panchayats.





## HYDROGEOLOGICAL STUDY REPORT OF DAHUATOLA STONE DEPOSIT AREA-2.65ACRES, DIST-KODERMA, JHARKHAND

### **DRAINAGE:**

The hydrological condition of the study area is governed by two major river basin/sub-basins, which is mentioned below:

#### **Name of River Basin/Sub Basin**

1. Damodar River Basin
2. Barakar River sub-basin

#### **Damodar River Basin:**

Damodar River basin plays a vital role for ecological balance and provides the life supporting system of large number of flora and fauna since millions of years. From prehistoric time human civilization evolved along this river basin.

The main tributary of Damodar is Barakar which also originates in Hazaribagh District in Chotanagpur plateau. These two rivers form large upper catchment of the basin with an area of 17500 sqkm in the undulating plateau with their numerous drainage networks.

#### **Barakar River sub-basin:**

The total geographic area of the basin is 7026 sq km, of which 453.23 sq km falls in Koderma and 695.7 sq km in Koderma district. The Barakar river originates from the hills of Hazaribagh and runs almost parallel to river Damodar in about 200km length in the eastern direction and join the river Damodar near dishergarh town. The important tributaries of the river Barakar are the saghar, the barkar sakri, barsati khero, usri chikri . The Kodarma district falls under lower Ganga basin .By and large, the drainage density is high in hilly and undulating tracts followed by moderate to low density in plains. Invariably, short slope areas between high hills and plain displayed very high drainage density qualifying for severely gullied and ravinous areas. The relief in general is normal in plains, excessive in hilly and undulating areas; whereas, valley fills show subnormal relief. In scattered intermountain valley areas occasionally ponded relief is common. The study area has dendritic drainage pattern which is structurally controlled and typical characteristic of gneissic rock type. The Flow direction of drainage pattern is towards eastern part. Major river in this part is Damodar and Barakar.

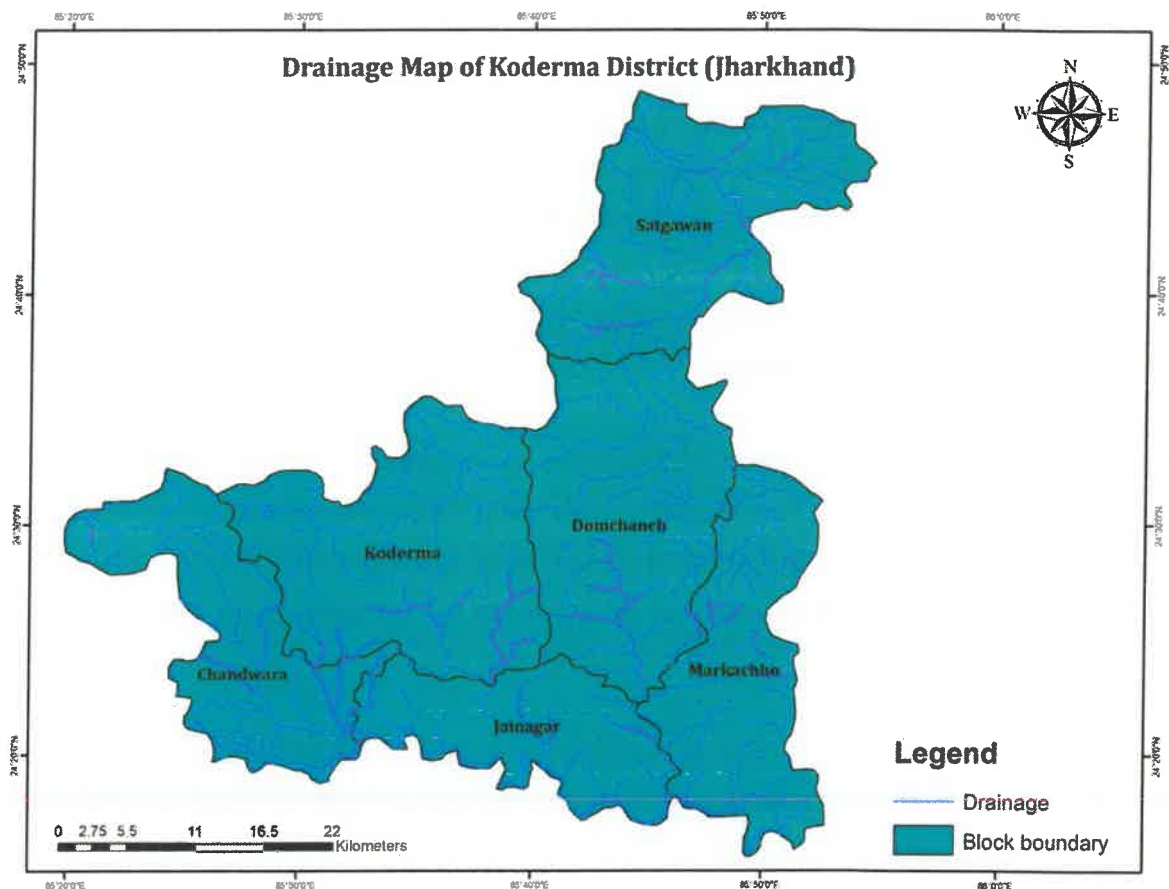


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# HYDROGEOLOGICAL STUDY REPORT OF DAHUATOLA STONE DEPOSIT AREA-2.65ACRES, DIST-KODERMA, JHARKHAND



## CLIMATE

Dhanbad district experience sub-tropical climate, which is characterized by hot summer from March to May and well distributed rainfall during southwest monsoon from June to September. Winter season in the area is marked by dry and cold weather with intermittent showers during the month of December to February.

Dhanbad area is climatically different from neighboring regions. The important climatic elements such as temperature, precipitation, pressure, and wind velocity show great variation.

Three broad climatic seasons are found - (1) **the winter season** lasting from November to February. The months of December and January are the coldest. (2) **The summer season** begins from March and lasts till May. During April the wind blows from the west .It remains relatively hot and temperature rises around 400C. (3) **The Rainy season**-This season normally begins from the middle of June, when the monsoon winds bring moisture-laden clouds from the Bay of Bengal

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### RAINFALL

The annual average rainfall is 1126 mm. Koderma region receives more rainfall and it gradually decreases in east direction. Having humid and sub humid tropical monsoon type of climate characterize the climatic zone of Koderma. In normal year 40-60 mm of rain is received as pre monsoon shower that help farmer to start land preparation. About 80% of the rain is receive during mid June to first week of October. Further, 100 mm of rain is received during October and November. Winter rain during December to February is very helpful for Rabi cultivation.

### TEMPERATURE

The calendar year may be divided into three main seasons in the district of Koderma. The winter season starts form November to February. The summer season is from March to May and the rainy season is from June to October. In winter early mornings and nights are cold. Night temperature falls down to 5 degree or even lower. To the contrast summer is hot and unpleasant, the temperature rising up to 44°C.

### SOILS

The soils of the study area can be broadly grouped into the soil developed in different formation like granite gneiss of Archean age, and alluvial plain. Texturally the soils have been classified into four classes as :-

**Stony and Gravelly:** These are low grade soils having a large admixture of cobbles, pebbles and gravels generally found at the base of the hills.

**Sandy Soils :** It is found near the stream beds containing 60% sand and are easily drained. These are poor in respect of fertility and require heavy maturing.

**Loamy Soils:** These consist mostly of detritus of decomposed rocks and vegetables matter. It is suitable for cultivation. Normally these are found in valleys near the hills.

**Clayey Soils:** These soils are found near tank beds. It is sticky soils. Their water bearing capacity is very high. The area is very fertile but yielding capacity improved with addition of sand, lime and organic manures etc.

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## 3. SCOPE & OBJECTIVES

The scope of the present hydrogeological investigation encompasses the following key activities:

**Site Reconnaissance:** Conducting site visits to gain familiarity with the project area and to identify any potential hydrogeological concerns that may arise due to the proposed mining activities. This includes evaluating terrain features, existing water bodies, and land use patterns that may influence the groundwater scenario.

**Data Collection and Review:** Gathering and synthesizing background information such as geological maps, hydrogeological reports and existing groundwater studies. This data forms the foundation for a comprehensive understanding of the subsurface conditions and aids in enhancing the quality and accuracy of the assessment.

**Field Investigations:** Undertaking detailed hydrogeological evaluations and geophysical surveys at selected locations to determine the occurrence, depth, extent, and yield potential of aquifers within the project site.

**Groundwater Assessment and Reporting:** Preparing detailed hydrogeological survey reports in accordance with the guidelines and procedures established by the Central Ground Water Board (CGWB). This includes:

- ❖ Assessment of groundwater availability.
- ❖ Evaluation of aquifer characteristics and yield potential.
- ❖ Assessment of groundwater quality and potential deviations from national standards.
- ❖ Analysis of the potential impacts of the proposed mining activities on aquifer systems, water quality, and existing groundwater users.

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## 4. LOCATION OF THE AREA

The mining lease over an area of 2.65 Acres in Plot no- 2280(P), Khata no-25 in village Dahuatola of district Koderma, of Jharkhand State. The area is located in survey of India Topo Sheet No. F45T11 and bounded by Latitude N 24° 21' 24.50819" to N 24° 21' 31.01116" & Longitude: E 85° 35' 35.77178" to E 85° 35' 41.30182".

## 5. PURPOSE OF HYDROGEOLOGICAL STUDIES

Groundwater occurs in the area under unconfined condition in the weathered zones at shallow depths in most of the litho units in the Achaean and almost all the litho units in the Gondwanas. Groundwater occurs under confined to semi-confined condition where the fractures are deep seated and are unconnected with the top weathered zone.

**Aquifer geometry**-The aquifer geometry for shallow and deeper aquifer has been established through hydro geological studies, exploration, the surface and subsurface geophysical studies in the district covering all geological formations. The aquifer can be divided into two zones – shallow and deeper aquifer.

(i) **Shallow aquifer** – The shallow aquifers are being tapped through dug wells, dug cum bore wells or shallow bore wells drilled to the depth of 60 m. The weathered mantle and shallow fractures constitute the shallow aquifers. The thickness of weathered mantle varies from 5 to 25 mbgl. The well inventory data suggest that the maximum depth of dug well in granite gneiss and Gondwana is 17 m and 50 m respectively. Exploration in granite gneiss indicates that shallow fractures are less productive. Many dug wells and hand pumps get dried up during summer.

**Deeper aquifers:**

**Depths –to-water levels and groundwater conditions:**

Groundwater conditions in various litho units are usually described under two broad heads viz.

- (i) The porous formations and
- (ii) The fissured formations

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## HYDROGEOLOGICAL STUDY REPORT OF DAHUATOLA STONE DEPOSIT AREA-2.65ACRES, DIST-KODERMA, JHARKHAND

### I. The porous Formations:

The main members of the porous formations are the Newer and Older alluvium of the Recent and sub-recent age. Recent alluvium is found in very thin veneers in topographic depressions along the Damodar River. Insignificant occurrences may also be noticed along Barakar River and in some major tributaries of these two. They cannot however, be considered as potential aquifers.

### II. The Fissured Formations:

Achaeans meta-sedimentaries, the granites, intrusive metabasics and the Lower Gondwana sedimentary constitute the productive aquifer. The first three come under consolidated Formation and the last one under semi consolidated Formation.

### Ground water level fluctuation

The upper most level (top) of the saturated zone in an unconfined aquifer is the water table. The level of water seen in a well is commonly referred to as water level. When a well is dug in an unconfined aquifer, water from the formation seeps in to the well and gradually builds up a water column. The top surface of this water column finally stops rising any further when it reaches the level of the water table. The depth of water level as seen in a well is also the depth of the water table in the aquifer.

The Ground water resource defined as below:

- (i) Dynamic ground water resource in the unconfined aquifer between pre and post monsoon water levels (which means it is rechargeable/replenishable).

Static ground water resource is below the zone of seasonal fluctuation of water level in a confined aquifer (which means it is trapped between impermeable rock).

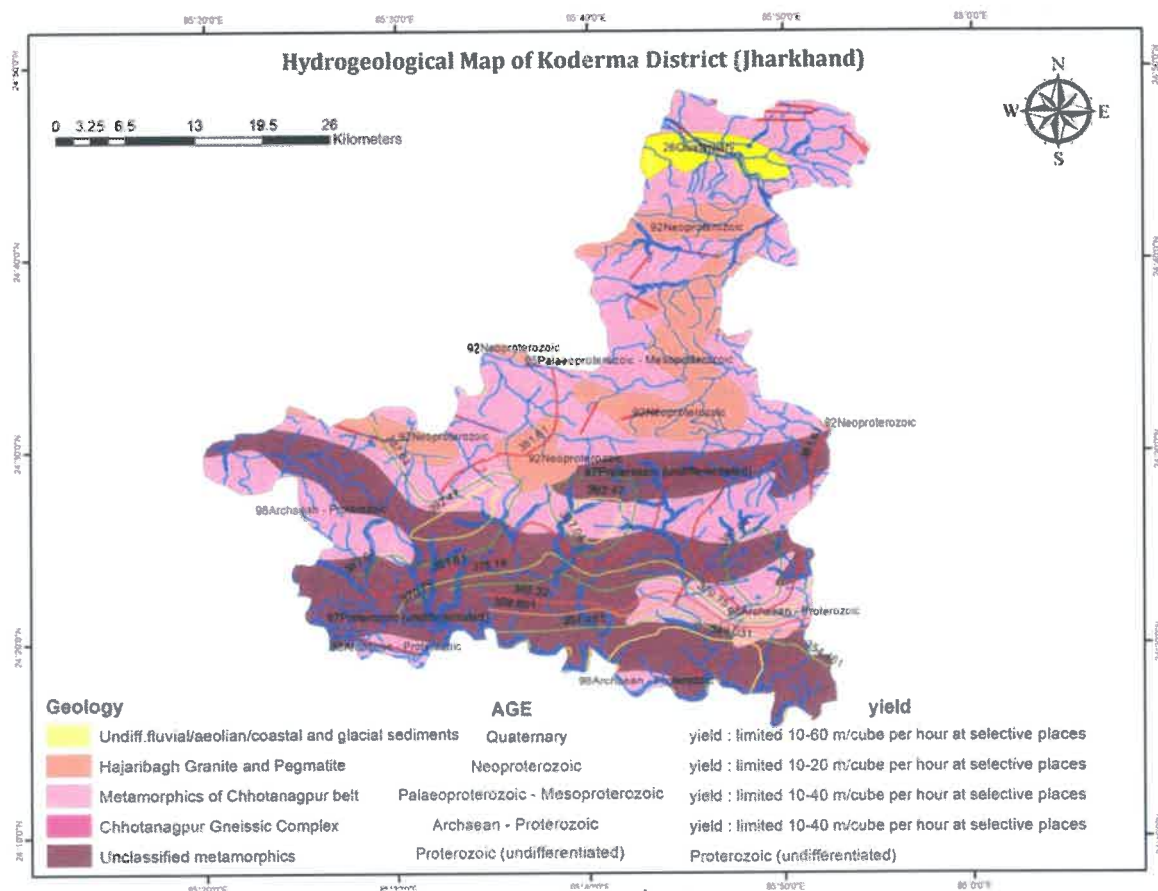
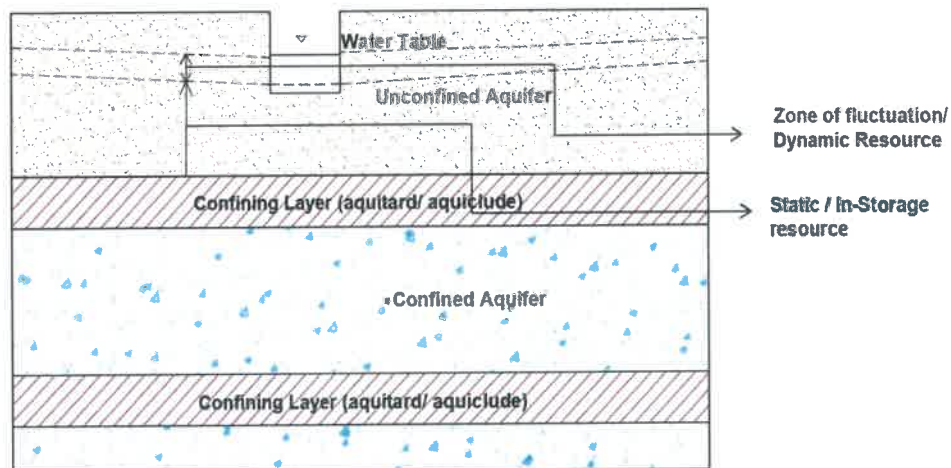
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## Resource Type

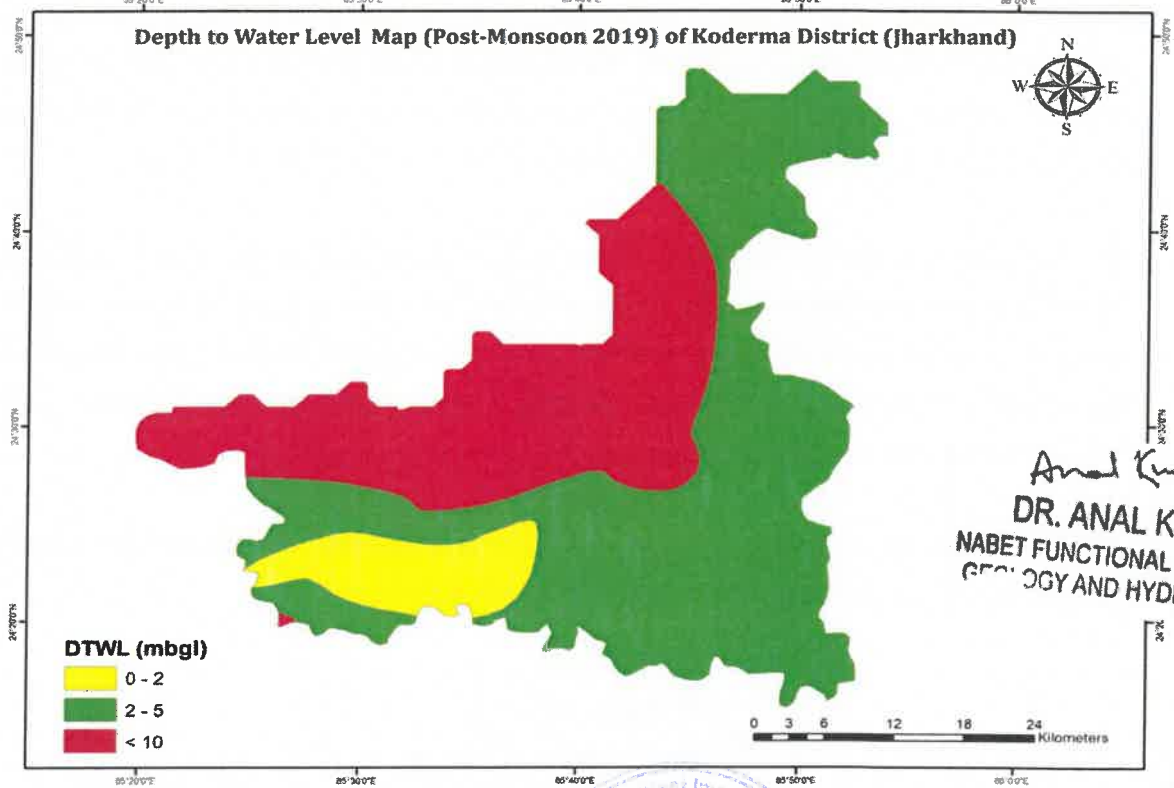
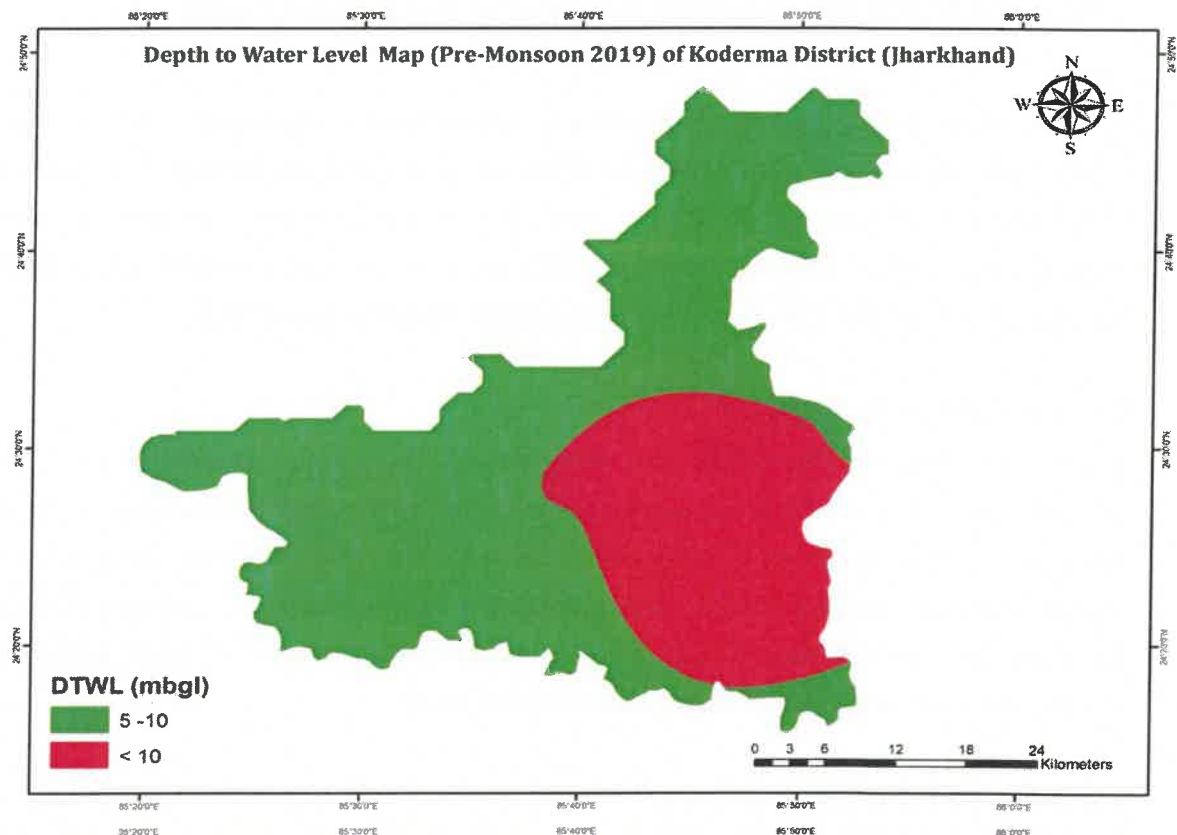
1. Dynamic - GW resource in the unconfined aquifer between pre and post monsoon water levels;
2. In-Storage/ Static - Below the zone of seasonal fluctuation of water level down to defined depth;



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# HYDROGEOLOGICAL STUDY REPORT OF DAHUATOLA STONE DEPOSIT AREA-2.65ACRES, DIST-KODERMA, JHARKHAND

## 6. GEOPHYSICAL INVESTIGATION METHOD

A variety of geophysical methods are available to assess subsurface geological conditions. For the present study, the primary objective of the fieldwork was to determine the thickness and composition of subsurface formations and to identify potential water-bearing zones. The principal method employed was Vertical Electrical Sounding (VES) using the Resistivity Method, which provides valuable information about the resistivity layering beneath the site of measurement.

### 6.1 RESISTIVITY METHOD

Vertical Electrical Soundings (VES) were conducted to investigate the subsurface conditions and confirm the presence and depth of potential aquifers. The method involves measuring the apparent resistivity of subsurface materials by injecting electrical current into the ground through a pair of electrodes and measuring the resulting potential difference with another pair of electrodes placed near the center. This configuration, typically using the Schlumberger Array, allows increasing depths of investigation as the electrode spacing is progressively expanded.

### 6.2 BASIC PRINCIPLES

The electrical resistivity of rocks in the upper crust is primarily governed by lithology, porosity, degree of saturation, and the salinity of pore water. Saturated formations exhibit lower resistivity compared to dry or unsaturated rocks. High porosity and saline groundwater further reduce resistivity. Additionally, the presence of conductive minerals and clays also contributes to lower resistivity values.

By measuring the potential distribution created by the injected current, the apparent resistivity of subsurface layers is determined. These values are plotted on a log-log graph (apparent resistivity vs. electrode spacing) to generate a resistivity curve. For multi-layered subsurfaces, the observed curves are matched with standard master curves or interpreted using computer modeling software to estimate the resistivity and thickness of each layer.

This method is relatively insensitive to lateral heterogeneities and offers significant depth penetration, making it well-suited for identifying deep groundwater-bearing zones.

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### 6.3 GOVERNING EQUATIONS

The electrical resistance R of a material is given by:

$$R = \frac{R_s \cdot L}{A}$$

Where-

R= Resistivity

R<sub>s</sub>= Specific resistivity (Ohm·m)

L= Length of the conductor

A= cross-sectional area

Using Ohm's Law:

$$R = \frac{dV}{I}$$

$$R_s = \frac{A}{L} \cdot \frac{dV}{I}$$

Where-

dV= potential difference

I= Current applied

Where  $R=V/I$  therefore 'V' is the potential difference created between the pair of potential electrodes P1 and P2 and 'I' is the current sent the ground through the current electrodes C1 and C2.

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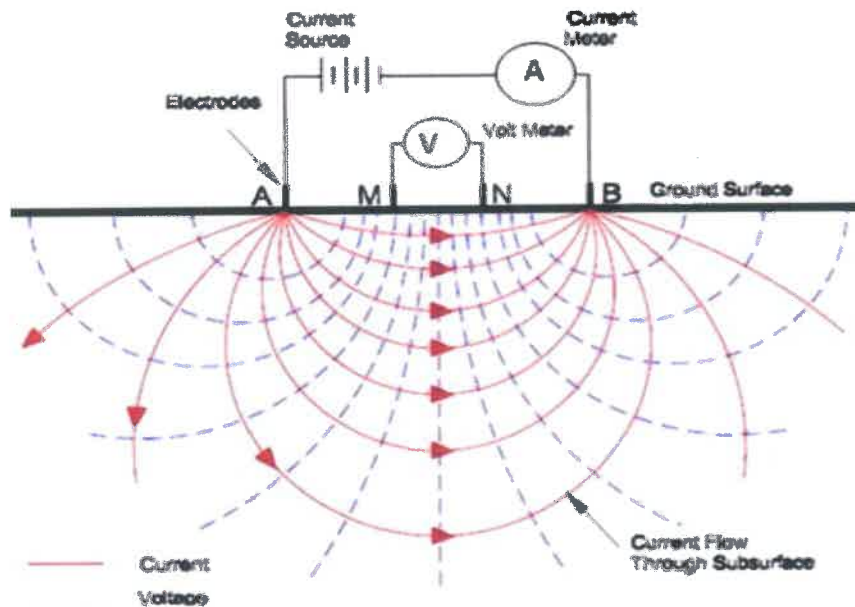
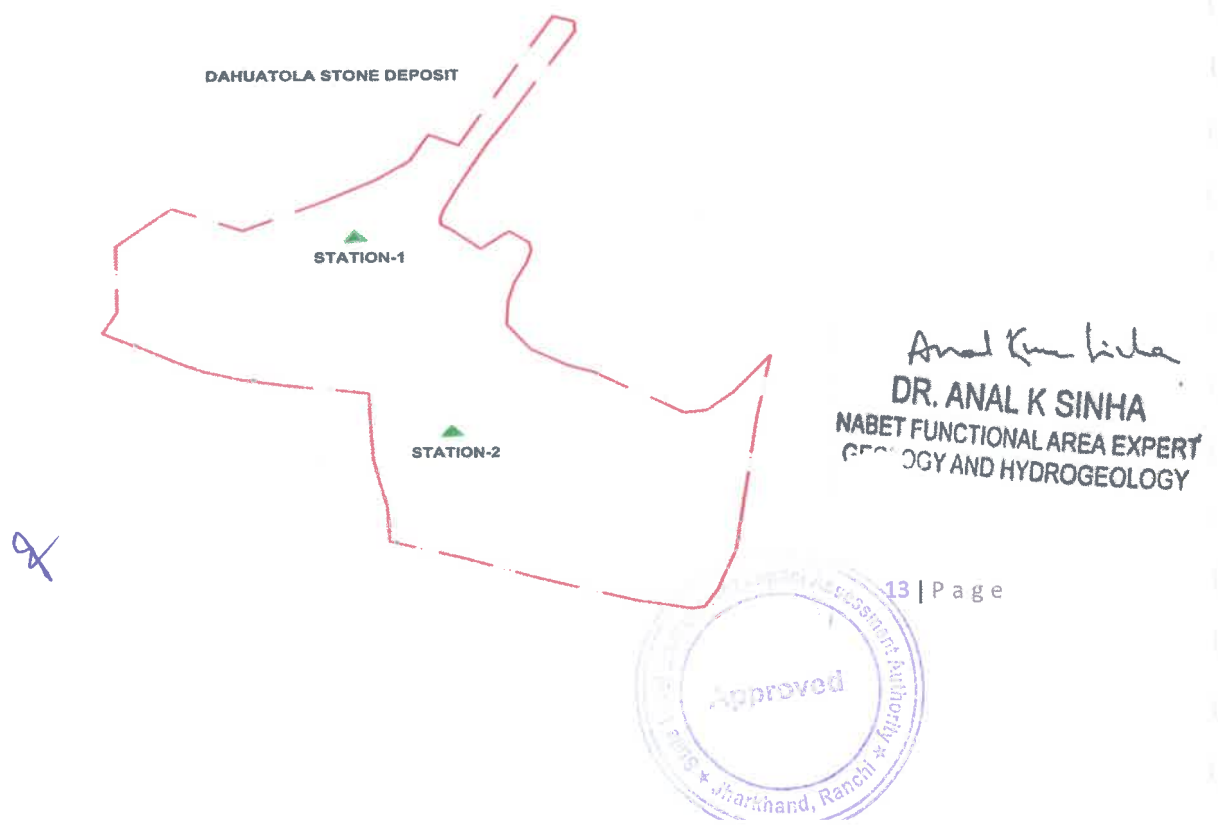


Fig: Electrical Resistivity Survey

### 6.4 INTERPRETATION OF VES DATA

During VES, increasing the electrode spacing causes the current to penetrate deeper into the ground. The measured resistivity values, when plotted, reveal the vertical variation of subsurface resistivity. These curves, when interpreted with specialized software or matched with theoretical models, provide the hydrogeologist with critical information about geological layering, aquifer depth, and groundwater potential.



# HYDROGEOLOGICAL STUDY REPORT OF DAHUATOLA STONE DEPOSIT AREA-2.65ACRES, DIST-KODERMA, JHARKHAND

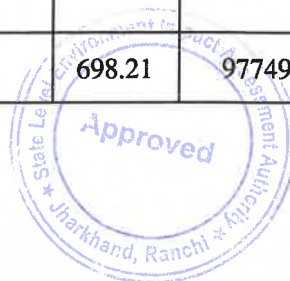
The lease Boundary & Station for Hydrogeological Survey of Dahuatola Stone Deposit. The Latitude and Longitude of Station Point are given Below:

| STATION | LATITUDE         | LONGITUDE        |
|---------|------------------|------------------|
| 1       | N 24° 21' 28.09" | E 85° 35' 37.60" |
| 2       | N 24° 21' 26.45" | E 85° 35' 38.77" |

| CONCLUSION OF GEOPHYSICAL DATA |          |          |             |             |                |        |                   |                                    |
|--------------------------------|----------|----------|-------------|-------------|----------------|--------|-------------------|------------------------------------|
| S.No.                          | AB/2 (m) | MN/2 (m) | Current (A) | Voltage (V) | Resistance (Ω) | K (m)  | Resistivity (Ω·m) | Material Type                      |
| 1                              | 5        | 1        | 0.5         | 22          | 44             | 75.40  | 3317              | Weathered/<br>Hard<br>Rock/Bedrock |
| 2                              | 7        | 1        | 0.5         | 28          | 56             | 150.80 | 8444              | Weathered/<br>Hard<br>Rock/Bedrock |
| 3                              | 10       | 2        | 0.5         | 40          | 80             | 150.80 | 12064             | Hard<br>Rock/Bedrock               |
| 4                              | 12       | 2        | 0.5         | 44          | 88             | 219.91 | 19352             | Hard<br>Rock/Bedrock               |
| 5                              | 15       | 3        | 0.5         | 50          | 100            | 226.19 | 22619             | Hard<br>Rock/Bedrock               |
| 6                              | 18       | 3        | 0.5         | 54          | 108            | 329.87 | 35625             | Hard<br>Rock/Bedrock               |
| 7                              | 22       | 4        | 0.5         | 58          | 116            | 367.57 | 42638             | Hard<br>Rock/Bedrock               |
| 8                              | 26       | 4        | 0.5         | 60          | 120            | 518.36 | 62203             | Hard<br>Rock/Bedrock               |
| 9                              | 30       | 5        | 0.5         | 60          | 120            | 549.78 | 65973             | Hard<br>Rock/Bedrock               |
| 10                             | 34       | 5        | 0.5         | 64          | 128            | 710.91 | 90996             | Hard<br>Rock/Bedrock               |
| 11                             | 37       | 6        | 0.5         | 70          | 140            | 698.21 | 97749             | Hard                               |

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|    |    |   |     |    |     |         |        |                            |
|----|----|---|-----|----|-----|---------|--------|----------------------------|
|    |    |   |     |    |     |         |        | Rock/Bedrock               |
| 12 | 40 | 6 | 0.5 | 72 | 144 | 819.21  | 117966 | Hard Rock/Bedrock          |
| 13 | 44 | 7 | 0.5 | 72 | 144 | 847.22  | 121999 | Hard Rock/Bedrock          |
| 14 | 48 | 7 | 0.5 | 72 | 144 | 1012.44 | 145791 | Hard Rock/Bedrock          |
| 15 | 52 | 7 | 0.5 | 72 | 144 | 1192.02 | 171650 | Hard Rock/Bedrock          |
| 16 | 56 | 7 | 0.5 | 74 | 148 | 1386.00 | 205128 | Hard Rock/Bedrock          |
| 17 | 60 | 8 | 0.5 | 74 | 148 | 1389.14 | 205592 | Hard Rock/Bedrock          |
| 18 | 64 | 8 | 0.5 | 74 | 148 | 1581.64 | 234082 | Hard Rock/Bedrock          |
| 19 | 68 | 8 | 0.5 | 74 | 148 | 1791.14 | 265088 | Hard Rock/Bedrock          |
| 20 | 71 | 8 | 0.5 | 40 | 80  | 1955.25 | 156420 | Encountered fractured zone |
| 21 | 74 | 8 | 0.5 | 25 | 50  | 2126.14 | 106307 | Water Zone                 |

Note-

**K (Geometrical Factor)** is calculated using the Schlumberger configuration formula:

$$K = \pi \times ((AB/2)^2 - (MN/2)^2) / (MN/2)$$

**Resistivity ( $\rho$ )** is derived from  $\rho = R \times K$

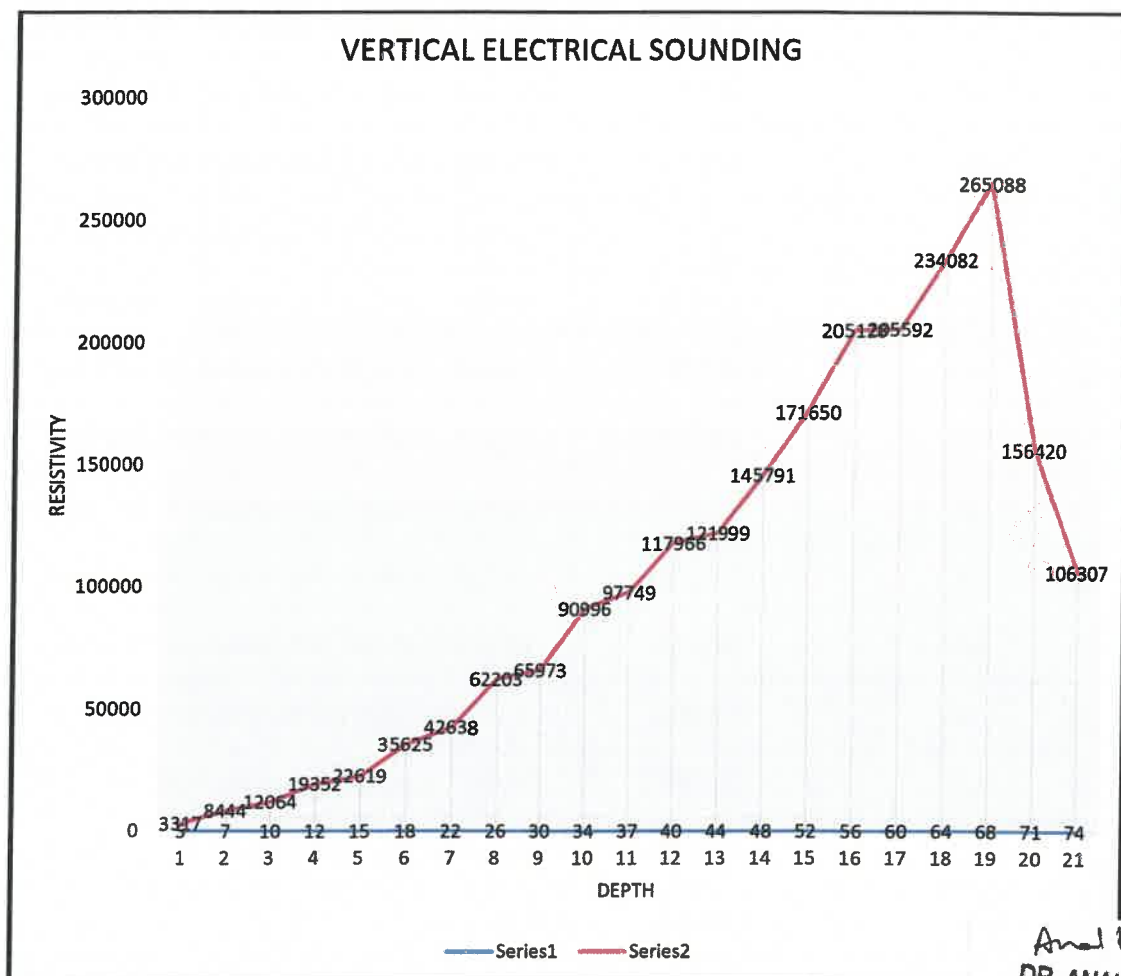
Note: AB/2= Depth from surface

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**Analyze potential aquifers from your Vertical Electrical Sounding (VES) data**

| S. No | AB/2 (m) | Resistivity ( $\Omega \cdot m$ ) | Interpretation                                    |
|-------|----------|----------------------------------|---------------------------------------------------|
| 1     | 5        | 3317                             | Weathered/Soil zone – likely saturated            |
| 2     | 7        | 8444                             | Increase in resistivity – less weathered rock     |
| 3     | 10       | 12064                            | Very high – massive rock, unlikely to yield water |
| 4     | 12       | 19352                            | Very high – massive rock, unlikely to yield water |
| 5     | 15       | 22619                            | Very high – massive rock, unlikely to yield water |



# HYDROGEOLOGICAL STUDY REPORT OF DAHUATOLA STONE DEPOSIT AREA-2.65ACRES, DIST-KODERMA, JHARKHAND

|    |    |        |                                                   |
|----|----|--------|---------------------------------------------------|
| 6  | 18 | 35625  | Very high – massive rock, unlikely to yield water |
| 7  | 22 | 42638  | Very high – massive rock, unlikely to yield water |
| 8  | 26 | 62203  | Very high – massive rock, unlikely to yield water |
| 9  | 30 | 65973  | Very high – massive rock, unlikely to yield water |
| 10 | 34 | 90996  | Very high – massive rock, unlikely to yield water |
| 11 | 37 | 97749  | Very high – massive rock, unlikely to yield water |
| 12 | 40 | 117966 | Very high – massive rock, unlikely to yield water |
| 13 | 44 | 121999 | Very high – massive rock, unlikely to yield water |
| 14 | 48 | 145791 | Very high – massive rock, unlikely to yield water |
| 15 | 52 | 171650 | Very high – massive rock, unlikely to yield water |
| 16 | 56 | 205128 | Very high – massive rock, unlikely to yield water |
| 17 | 60 | 205592 | Very high – massive rock, unlikely to yield water |
| 18 | 64 | 234082 | Very high – massive rock, unlikely to yield water |
| 19 | 68 | 265088 | Very high – massive rock, unlikely to yield water |
| 20 | 71 | 156420 | Encountered Fractured Zone                        |
| 21 | 74 | 106307 | Water Zone                                        |

## Aquifer Interpretation:

### 1st Layer (0–5 m):

- ❖ Moderately low resistivity
- ❖ Indicates Soil and weathered rock zone, possibly not saturated

### 2nd Layer (05–68m):

- ❖ High resistivity values indicate massive, compact crystalline rocks
- ❖ Low porosity and permeability
- ❖ Likely forms the aquifer base

### 3rd Layer (68–74 m):

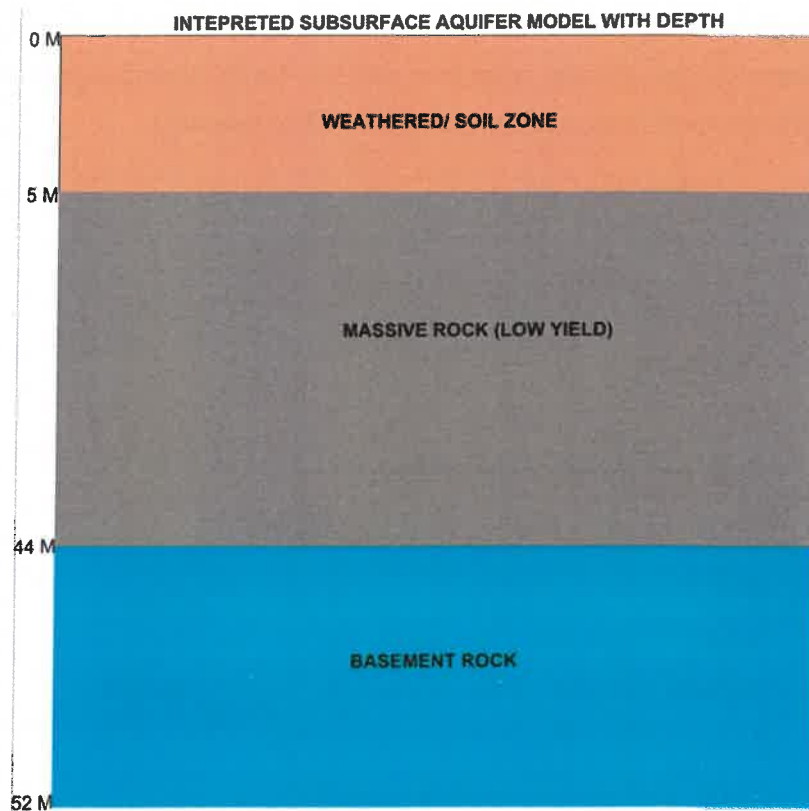


  
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- ❖ Slight Drop due to Low Resistivity
- ❖ Indicates deep hard rock with Minimal water potential
- ❖ Only useful if deep fractures are present



**Weathered Zone (0–5 m)** – Likely to hold no groundwater.

**Massive Rock (05–68 m)** – Hard Massive compact rock

**Basement Rock (68–74 m)** – At the base low resistivity fractured zone with good ground water yield

### 6.4 CONCLUSION

The hydrogeological investigation carried out in the study area, using Vertical Electrical Sounding (VES) methods, has provided valuable insights into the subsurface stratigraphy and groundwater potential. The survey revealed that the topmost layer, up to approximately 5 meters depth, comprises weathered material with moderate resistivity, suggesting a potential no aquifer zone

At greater depths (5 to 68 meters), the resistivity values increase significantly, reflecting the presence of massive, compact rock with minimal porosity and permeability.

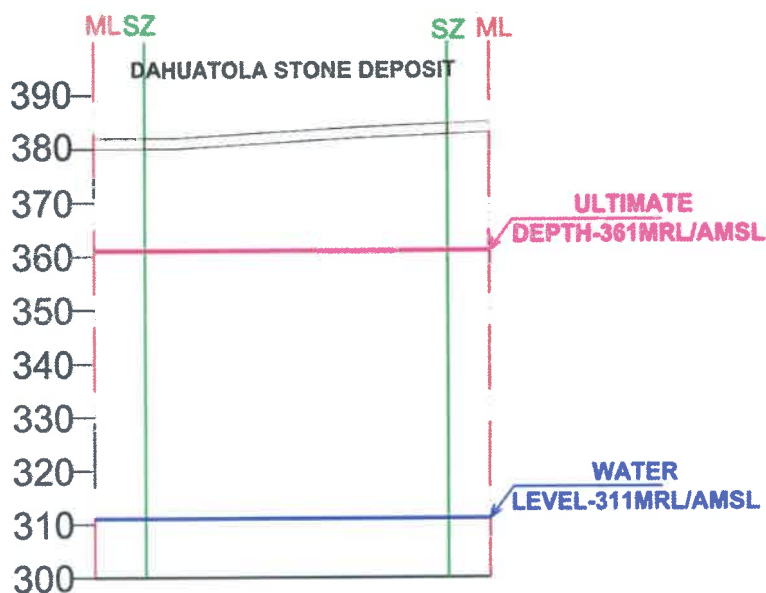
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## HYDROGEOLOGICAL STUDY REPORT OF DAHUATOLA STONE DEPOSIT AREA-2.65ACRES, DIST-KODERMA, JHARKHAND

This zone likely forms a transitional or barrier layer with poor groundwater potential. The deepest layer, below 74 meters, shows consistently high resistivity values, characteristic of dense basement rock, and is considered non-aquiferous under typical field conditions.

The applied lease area represents a small hillock with highest elevation level of around 385mRL above MSL was observed in Northern part of the lease area. The lowest elevation level is about 382mRL above MSL was observed in the southern part of the applied lease area



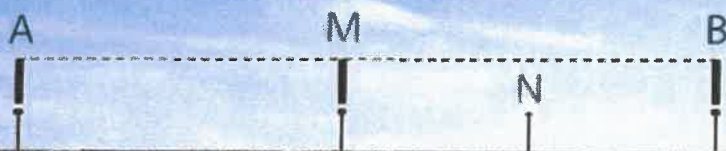
This is applied lease area and there is no quarry exists within the lease area. The proposed working of stone deposit has been planned up to maximum depth of 361mRL above MSL at Ultimate period. As per ground water study of the area the depth of ground water level is 311mRL above MSL. During the plan period and at ultimate stage, quarry excavation will not touch the water table.

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Schlumberger Configuration



# GROUND WATER

## ASSESSMENT REPORT

### DISTRICT MINING OFFICE

### KODERMA



Prepared by:

**AMIT MISHRA**  
(Sr. Geophysics) IIT-ISM Dhanbad

**ANIMESH MISHRA**  
(Asst. Geophysicist)

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\* Jharkhand, Ranchi \* April

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# INTRODUCTION

According to CGWB database Jharkhand state exhibits an overall safe groundwater scenario, with groundwater development remaining well within sustainable limits. The total annual groundwater recharge of the state is estimated at 6.28 BCM, while the annual extractable groundwater resource stands at 5.76 BCM. The current annual groundwater extraction is 1.81 BCM, resulting in an average stage of groundwater extraction of 31.42%, indicating low overall stress on groundwater resources ground water Jharkhand.

Out of 263 assessment units (259 blocks and 4 urban areas), 240 units (91.25%) fall under the 'Safe' category, whereas 12 units (4.56%) are categorized as Semi-critical, 6 units (2.28%) as Critical, and 5 units (1.9%) as Over-exploited. There are no saline assessment units reported in the state ground water Jharkhand

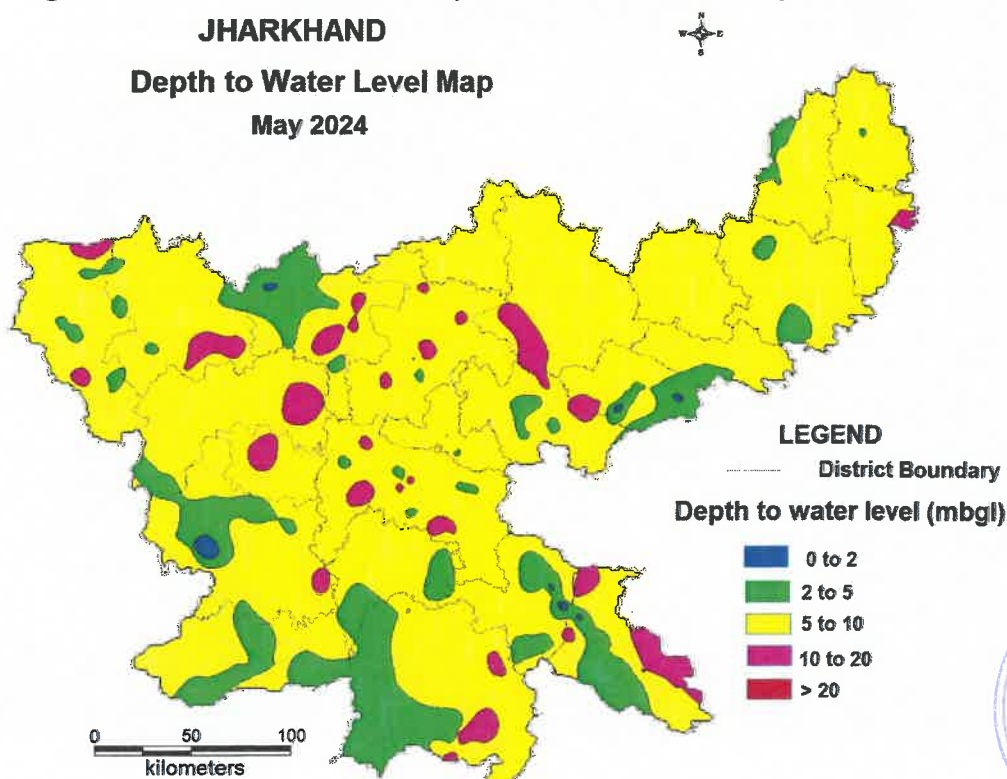
Groundwater recharge in Jharkhand is predominantly monsoon-dependent, and the hydrogeological regime is largely controlled by hard rock formations, leading to localized variability in groundwater potential. Higher stages of groundwater development are observed in select blocks due to industrial activities, mining operations, urbanization, and intensive agricultural practices, particularly in areas such as Bermo, Baliapur, Topchanchi, Khelari, Ranchi Urban, Dhanbad Urban, and Jamshedpur Urban ground water Jharkhand

Overall, the state possesses a net groundwater availability of about 3.96 BCM for future development, suggesting significant scope for planned and judicious groundwater utilization, provided appropriate management and recharge augmentation measures are implemented in stressed pockets

## JHARKHAND

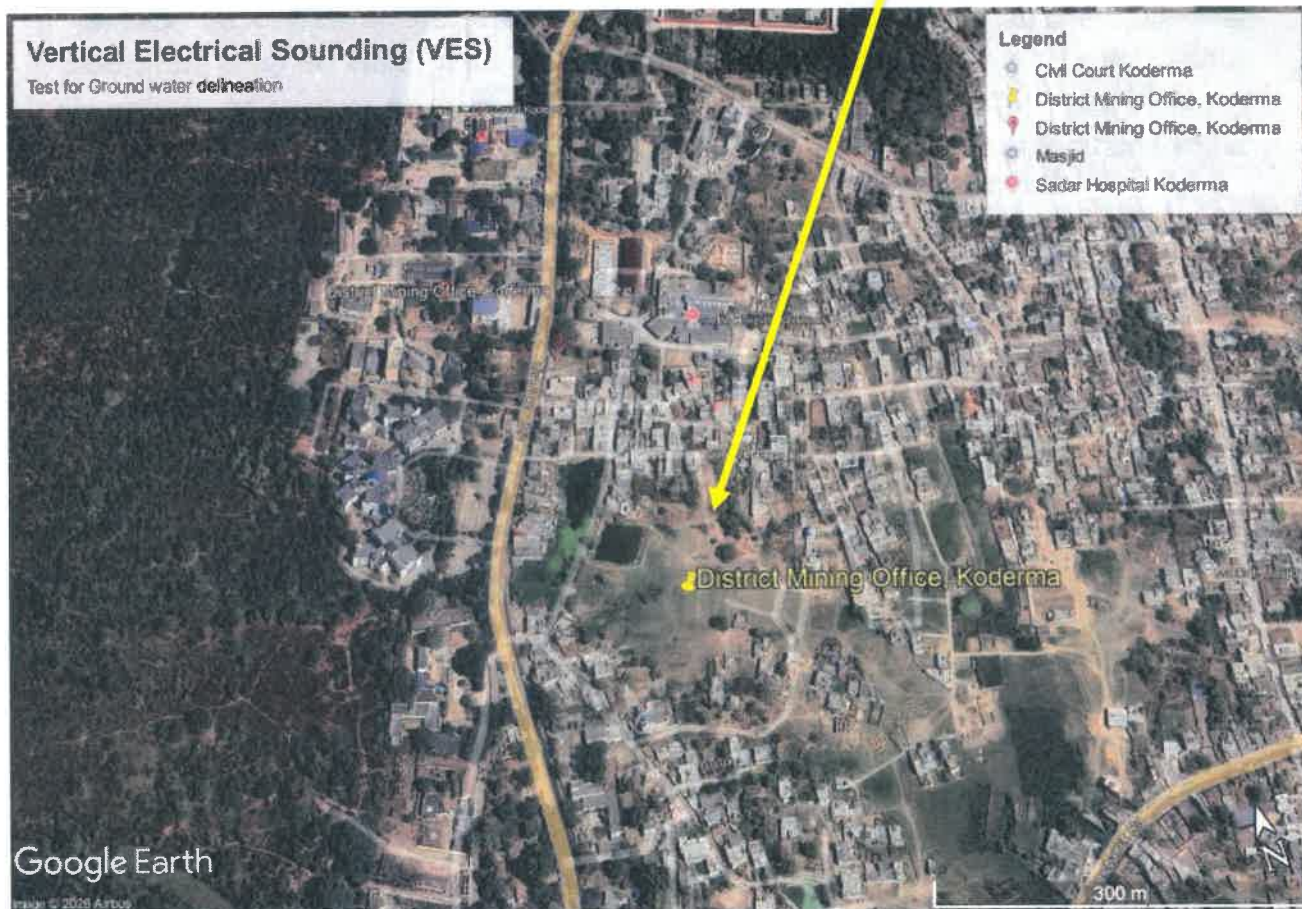
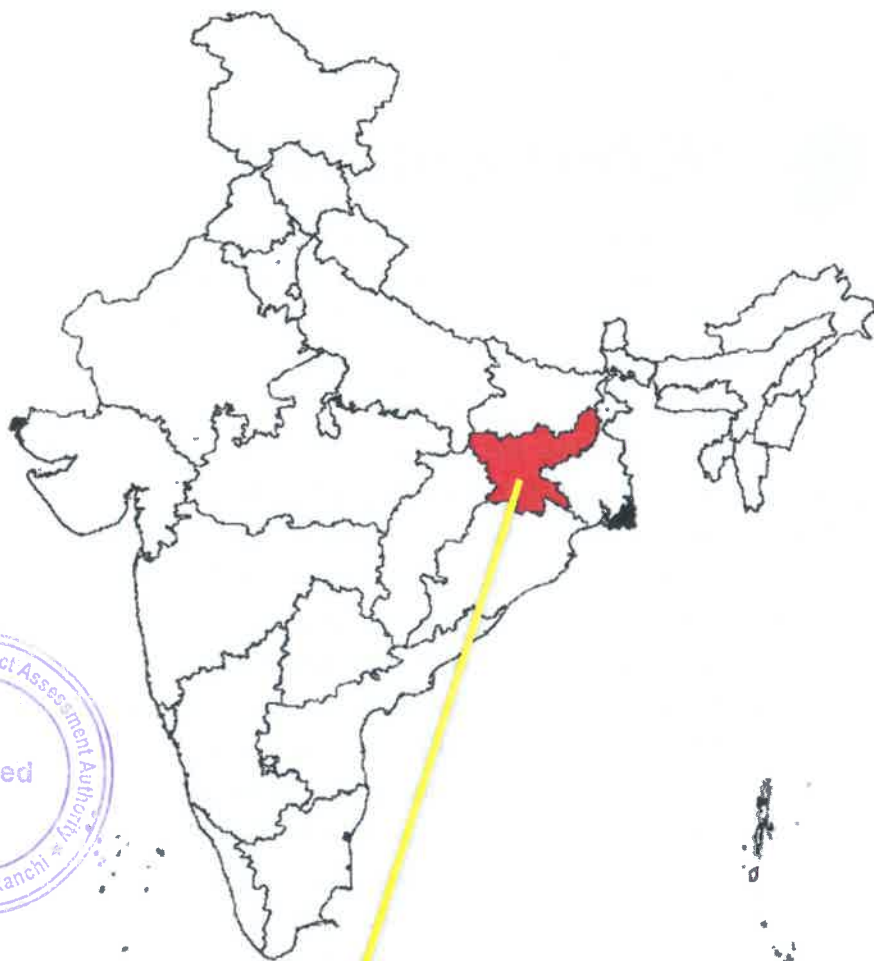
### Depth to Water Level Map

May 2024





## LOCATION



A





## GEOLOGY

Jharkhand State is underlain by geological formations ranging in age from **Archaean to Quaternary**, with **hard crystalline rocks occupying about 85% of the total geographical area**. The groundwater regime is mainly controlled by **weathering, fracturing, joints, fissures, vesicles and inter-granular porosity**, depending on the lithology. In general, groundwater occurs under **unconfined conditions at shallow depths** and **semi-confined to confined conditions at deeper levels**.

| Age                               | Formation                                                                                      | Broad Lithology                                                        |
|-----------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Quaternary                        | <b>Alluvial Deposits</b>                                                                       | Sand, silt, clay with occasional gravel                                |
| Tertiary                          | <b>Dhalbhumgarh Formation</b>                                                                  | Sandstone, conglomerate, claystone, gravel                             |
| Upper Jurassic – Lower Cretaceous | <b>Rajmahal Volcanics</b>                                                                      | Basaltic flows with inter-trappean sediments                           |
| Upper Jurassic – Carboniferous    | <b>Gondwana Supergroup</b>                                                                     | Sandstone, shale, clay, conglomerate with coal seams                   |
| Lower Cambrian – Proterozoic      | <b>Vindhyan Supergroup</b>                                                                     | Sandstone, shale, dolomite, chert                                      |
| Proterozoic                       | <b>Singbhum–Greenstone–Granite domain &amp; Chhotanagpur Gneissic Granulite Complex (CGGC)</b> | Granite, gneiss, schist, phyllite, amphibolite, basic–ultrabasic rocks |
| Archaean                          | <b>Older Metamorphic Group</b>                                                                 | Gneiss, schist, amphibolite, tonalite gneiss                           |



**Hydrogeological Characteristics**

Granite–Gneiss and CGGC formations form the principal aquifer system of the state. Groundwater occurs in the weathered mantle (10–25 m, locally >35 m) and in fractured zones generally within 150 m bgl. Yields range from negligible to about 30 lps, with deeper fractures showing semi-confined to confined conditions.

Vindhyan Supergroup rocks have groundwater potential mainly in fractured sandstones, while shale units are poor aquifers. Groundwater occurs largely under unconfined conditions.

Volcanic rocks (Rajmahal Traps and other volcanics) store groundwater in vesicular zones and inter-trappean beds. Shallow aquifers are unconfined, whereas deeper vesicular zones exhibit semi-confined to confined conditions.

Gondwana Supergroup formations contain groundwater in inter-granular and secondary porosities, occurring under unconfined conditions at shallow depths and semi-confined to confined conditions at depth, with occasional artesian flow.

Laterites and Tertiary sediments act as localized aquifers with groundwater under unconfined to semi-confined conditions.

Younger Alluvium, occurring in patches, forms shallow unconfined aquifers, with dug wells tapping water at 10–15 m and shallow tube wells at 20–30 m depth.



# METHODOLOGY

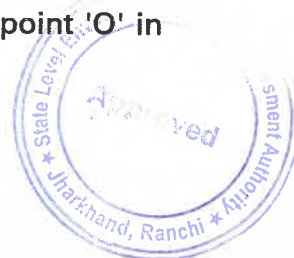
## VERTICAL ELECTRICAL SOUNDING (VES) METHOD

Vertical Electrical Sounding (VES) is a geophysical technique employed for the comprehensive investigation of subsurface geology, geo-technical site characteristics, and hydrogeological properties. This method entails measuring the apparent resistivity of the subsurface at various depths through the injection of a direct current into the ground via two electrodes, coupled with the measurement of the resulting potential difference between two additional electrodes.

Resistivity sounding, a specific application of VES, is a method aimed at studying vertical variations in the resistivity of the subsurface. This approach involves maintaining the center of the electrode configuration fixed while progressively increasing the electrode spacings during measurements. The apparent resistance values obtained through this process help estimate the thicknesses and resistivities of different subsurface layers. The resistivity of subsurface materials is contingent upon their composition and moisture content. As electrode separations increase, variations in apparent resistivity provide valuable insights into the sub surface's composition. Geophysicists analyze these data to determine the thickness, depth, and composition of subsurface layers. Furthermore, the resistivity data aids in identifying the presence of groundwater and other geological features.

The injection of current ( $I$ ) into the ground is executed through two outer electrodes, while the measurement of potential difference ( $V$ ) is taken between the inner electrodes. The relationship between potential difference and the injected current ( $V/I$ ) yields the Resistance ( $R$ ). The Schlumberger array, a commonly employed electrode configuration, involves four electrodes arranged in a line, with the two inner electrodes (Potential electrodes) kept closed.

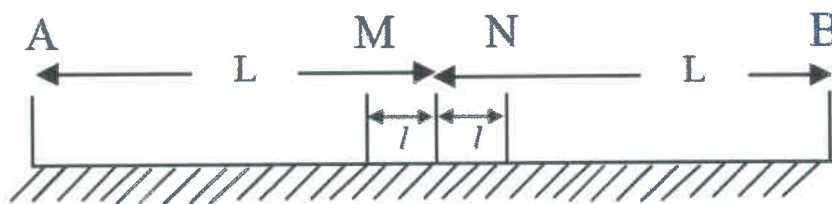
To enhance the depth of investigation, the current electrodes, labeled A and B, are symmetrically moved away from each other about the central point 'O' in



the Schlumberger array. Meanwhile, the potential electrodes remain fixed. The potential electrode separation is increased selectively when the potential difference falls below the measurement accuracy of the instrument. Each time the potential electrodes are shifted, measurements are repeated for a few current electrode separations.

The calculation of apparent resistivity for each current electrode separation is performed by multiplying the resistance value with the Schlumberger configuration factor. This factor takes into account the specific arrangement of electrodes in the Schlumberger array and is crucial for accurately determining the apparent resistivity at various depths.

This array is most widely used in electrical prospecting. The four electrodes (A, M, N, B) are placed along a straight line symmetrically over center point 'O'. The separation between potential electrodes (MN) is kept small when compared to the current electrode separation AB. Current is sent through the outer electrodes AB and potential across MN (the inner electrodes) is measured in a similar way as in the Wenner array. Using  $L = AB/2$  and  $l = MN/2$  the configuration factor for the Schlumberger array is  $K = \pi(L^2 - l^2)/2l$



Schlumberger electrode array -  $\rho_a = [\pi (L^2 - l^2)/2l] * R$

VES is commonly used in groundwater exploration, mineral exploration, and engineering geology studies. It is a relatively inexpensive and non-invasive method that can provide valuable information about subsurface conditions without the need for drilling or excavation. However, it requires specialized equipment and expertise to perform and interpret the data correctly.



# PROCESSING/INTERPRETATION

## PROCESSING OF VES DATA

The processing of Vertical Electrical Sounding (VES) data has been undertaken using two distinct software platforms, employing different analysis approaches tailored to the statistical nature of the data and the impact of noise generated in the dump area, ultimately aimed at achieving optimal results. Two software tools, namely IPI2win, RES1D and the IGIS inbuilt software, were utilized for the data processing.

IPI2win software adopts a root mean square or regression-based linear inversion approach, offering a robust method for data analysis. On the other hand, the IGIS software relies on the inverse slope methods, particularly effective when dealing with highly scattered data types. While most of VES applications in various scientific communities favour an inversion-based approach for its efficacy, it may not perform optimally with discrete or highly scattered data.

In instances where data exhibit a high degree of scatter, the inverse slope method, as implemented by the IGIS software, proves to be a more suitable option. Recognizing the versatile statistical nature of VES data, both methods - the inversion-based approach and the inverse slope method - have been employed in a conjugate manner. This dual approach is designed to check the data noise parameters comprehensively, ensuring a more accurate and reliable outcome.

By strategically combining the strengths of both analysis approaches, this conjugate utilization aims to harness the advantages of each method, mitigating the limitations associated with specific data types. The careful consideration of noise parameters enhances the overall quality and reliability of the processed VES data, contributing to a more comprehensive understanding of subsurface characteristics and geological features.





## OBSERVATION

One observation point is taken near district mining office for spatial clearance.

As per the orientation is concerned a total electrode spread of 200 meters due to spatial restrictions is selected for the survey which can give an estimated depth of spread/3 i.e. around 60m.

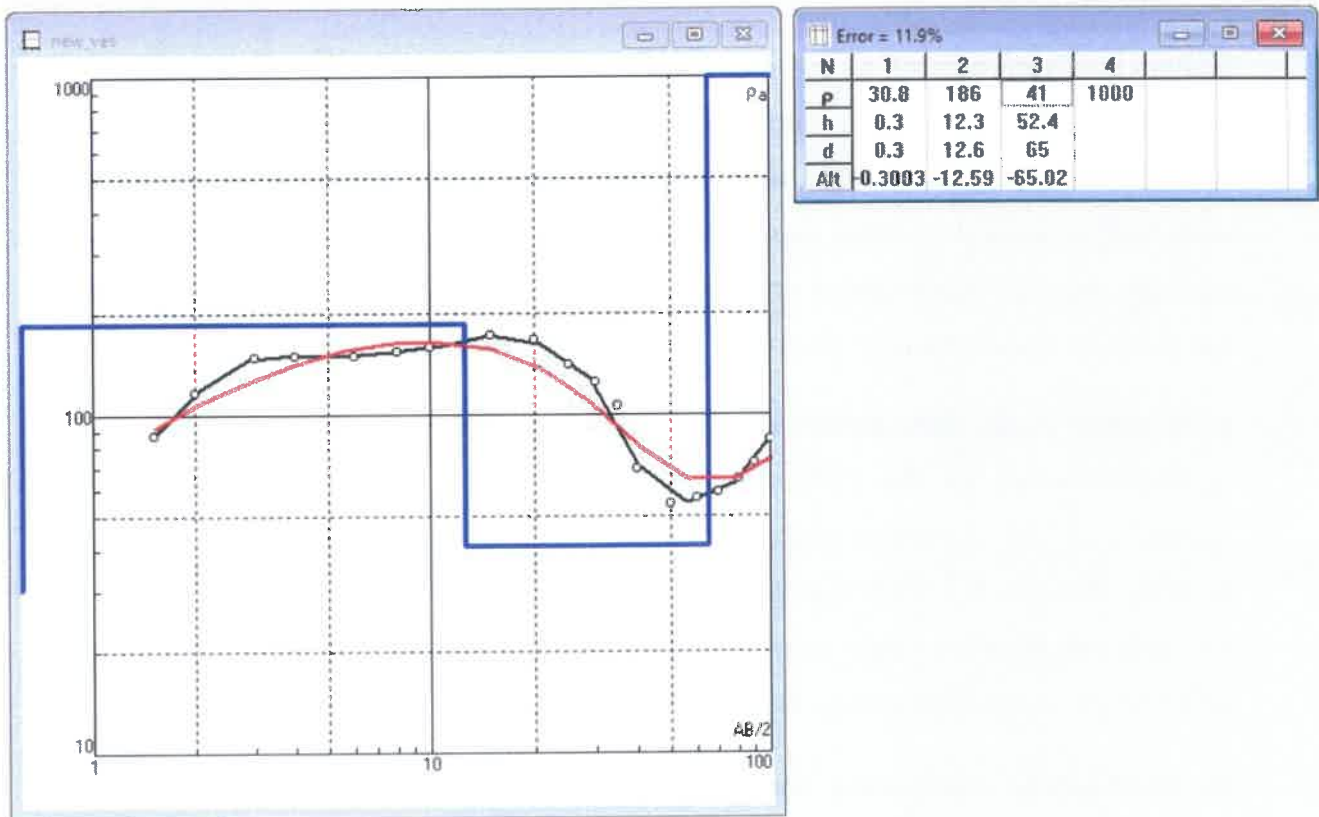


Fig: Resistivity Curve for Location 1.

2



## CONCLUSION/RECOMMENDATION

The resistivity curve exhibits an H-type behavior ( $\rho_1 < \rho_2 > \rho_3 < \rho_4$ ), indicating alternation of resistive and conductive layers with depth.

The blue step model suggests four geo-electric layers.

| LAYER   | RESISTIVITY<br>( $\Omega$ M) | THICKNESS<br>(M) | DEPTH<br>(M) | INTERPRETATION                                  |
|---------|------------------------------|------------------|--------------|-------------------------------------------------|
| LAYER 1 | ~31 $\Omega$ m               | ~0.3             | 0.3          | Topsoil / clayey soil with limited groundwater  |
| LAYER 2 | ~186 $\Omega$ m              | ~12.3            | ~12.6        | Weathered/fractured rock, dry to semi-saturated |
| LAYER 3 | ~41 $\Omega$ m               | ~52.4            | ~65          | Saturated fractured zone – potential aquifer    |
| LAYER 4 | ~1000 $\Omega$ m             | —                | >65          | Fresh basement rock, massive and compact        |

The low resistivity third layer (~41  $\Omega$ m) with substantial thickness (~52 m) represents a water-saturated fractured zone, which is the most promising aquifer horizon at this VES location.

**Recommended drilling depth: 70–90 m**

Target aquifer zone: 40–65 m bgl

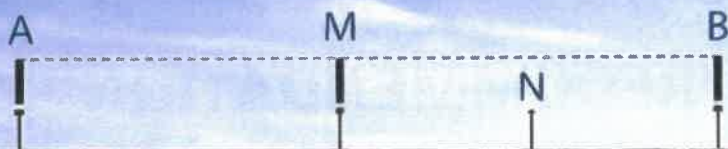
Expected yield: Moderate to good (site-specific, dependent on fracture connectivity)

9X



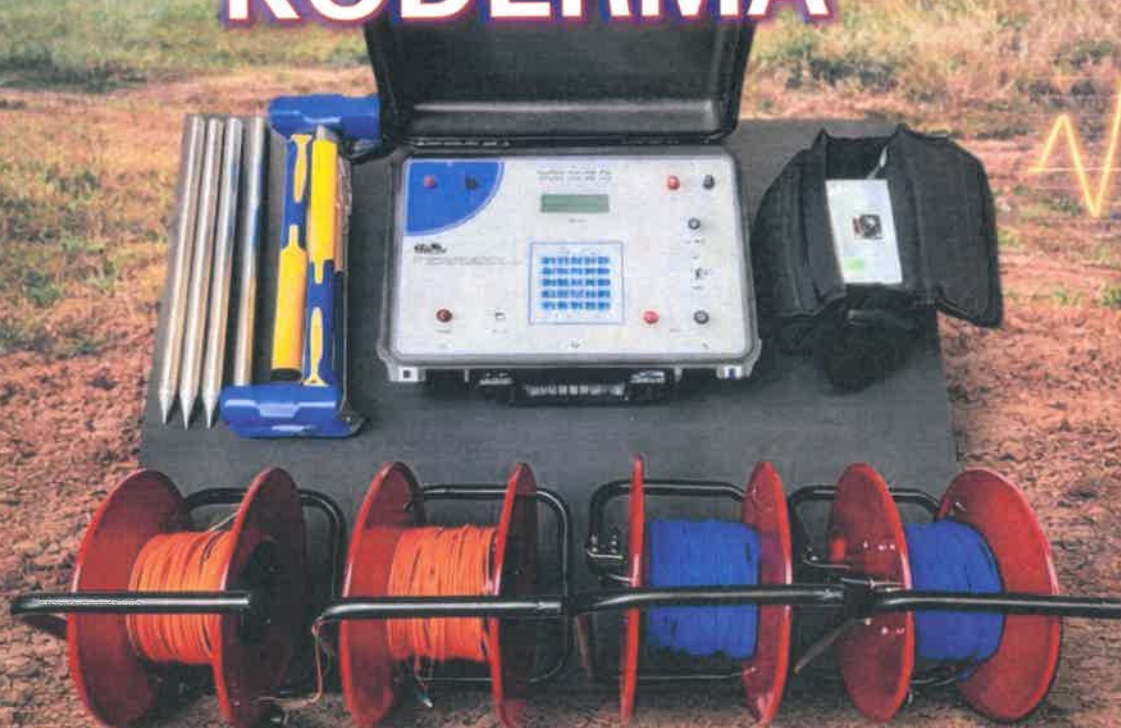


Schlumberger Configuration



# GROUND WATER ASSESSMENT REPORT

## SATGAWAN BLOCK KODERMA



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# INTRODUCTION

According to CGWB database Jharkhand state exhibits an overall safe groundwater scenario, with groundwater development remaining well within sustainable limits. The total annual groundwater recharge of the state is estimated at 6.28 BCM, while the annual extractable groundwater resource stands at 5.76 BCM. The current annual groundwater extraction is 1.81 BCM, resulting in an average stage of groundwater extraction of 31.42%, indicating low overall stress on groundwater resources ground water Jharkhand.

Out of 263 assessment units (259 blocks and 4 urban areas), 240 units (91.25%) fall under the 'Safe' category, whereas 12 units (4.56%) are categorized as Semi-critical, 6 units (2.28%) as Critical, and 5 units (1.9%) as Over-exploited. There are no saline assessment units reported in the state ground water Jharkhand

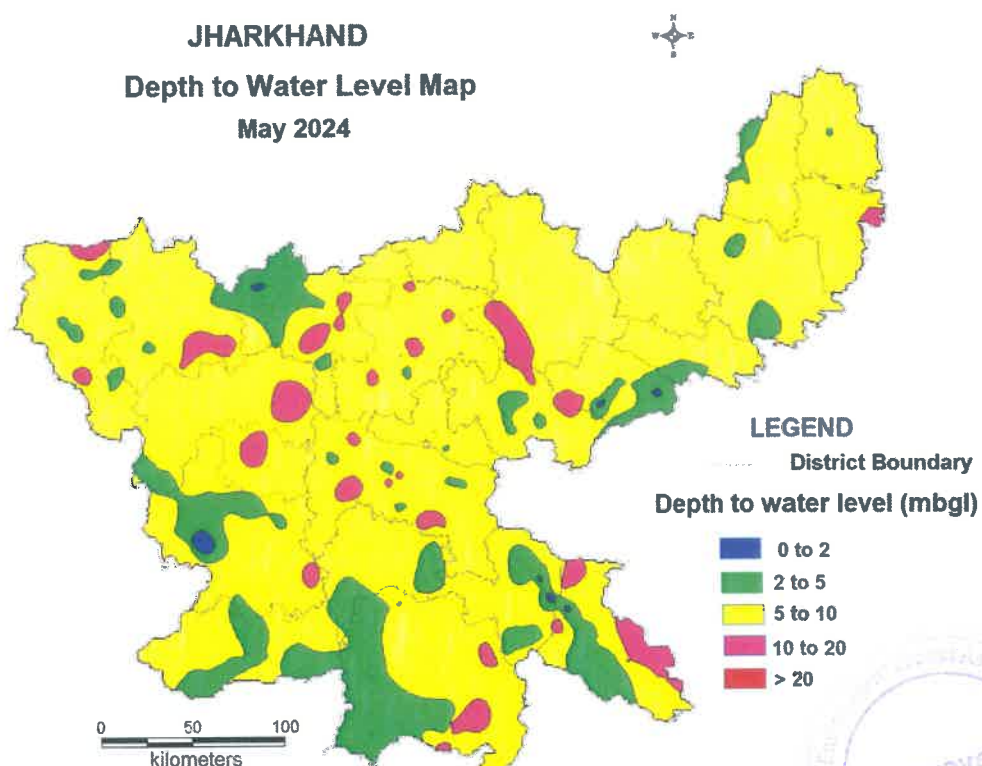
Groundwater recharge in Jharkhand is predominantly monsoon-dependent, and the hydrogeological regime is largely controlled by hard rock formations, leading to localized variability in groundwater potential. Higher stages of groundwater development are observed in select blocks due to industrial activities, mining operations, urbanization, and intensive agricultural practices, particularly in areas such as Bermo, Baliapur, Topchanchi, Khelari, Ranchi Urban, Dhanbad Urban, and Jamshedpur Urban ground water Jharkhand

Overall, the state possesses a net groundwater availability of about 3.96 BCM for future development, suggesting significant scope for planned and judicious groundwater utilization, provided appropriate management and recharge augmentation measures are implemented in stressed pockets

## JHARKHAND

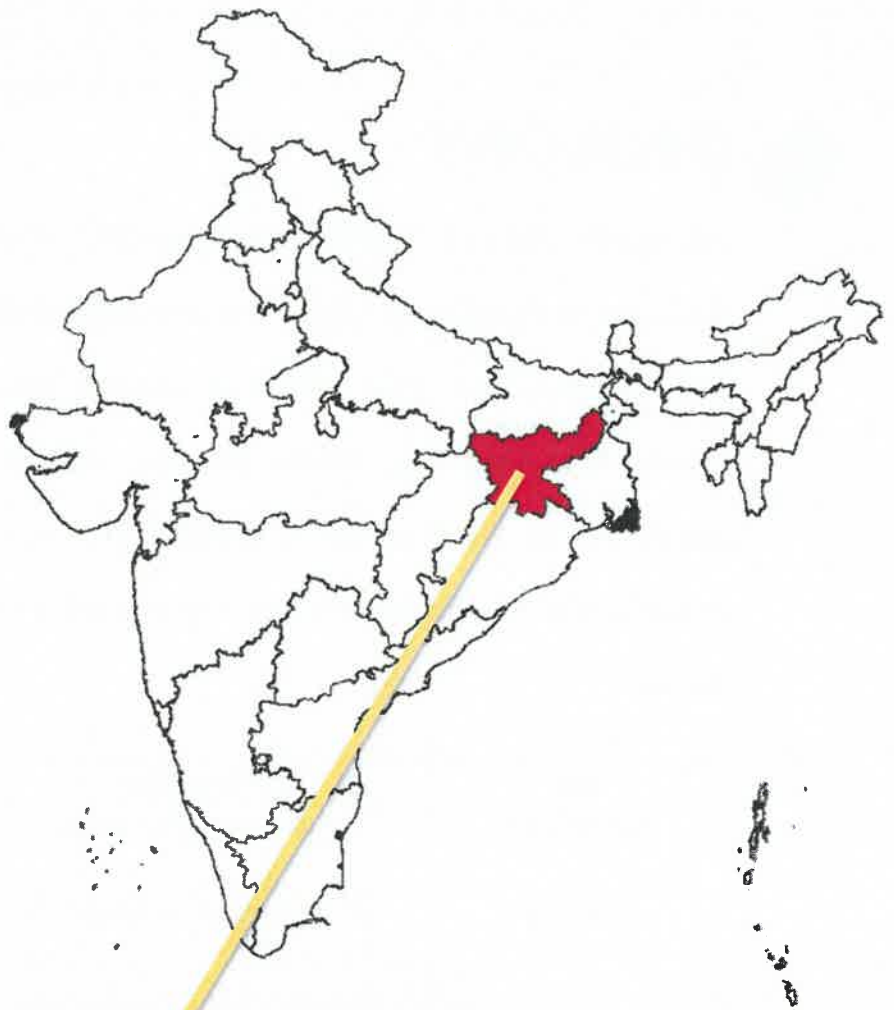
### Depth to Water Level Map

May 2024





## LOCATION



X







## GEOLOGY

Jharkhand State is underlain by geological formations ranging in age from **Archaean to Quaternary**, with **hard crystalline rocks occupying about 85% of the total geographical area**. The groundwater regime is mainly controlled by **weathering, fracturing, joints, fissures, vesicles and inter-granular porosity**, depending on the lithology. In general, groundwater occurs under **unconfined conditions at shallow depths and semi-confined to confined conditions at deeper levels**.

| Age                               | Formation                                                                           | Broad Lithology                                                        |
|-----------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| Quaternary                        | Alluvial Deposits                                                                   | Sand, silt, clay with occasional gravel                                |
| Tertiary                          | Dhalbhumgarh Formation                                                              | Sandstone, conglomerate, claystone, gravel                             |
| Upper Jurassic – Lower Cretaceous | Rajmahal Volcanics                                                                  | Basaltic flows with inter-trappean sediments                           |
| Upper Jurassic – Carboniferous    | Gondwana Supergroup                                                                 | Sandstone, shale, clay, conglomerate with coal seams                   |
| Lower Cambrian – Proterozoic      | Vindhyan Supergroup                                                                 | Sandstone, shale, dolomite, chert                                      |
| Proterozoic                       | Singbhum–Greenstone–Granite domain & Chhotanagpur Gneissic Granulite Complex (CGGC) | Granite, gneiss, schist, phyllite, amphibolite, basic–ultrabasic rocks |
| Archaean                          | Older Metamorphic Group                                                             | Gneiss, schist, amphibolite, tonalite gneiss                           |





## HYDROGEOLOGICAL CHARACTERISTICS

Granite–Gneiss and CGGC formations form the principal aquifer system of the state. Groundwater occurs in the weathered mantle (10–25 m, locally >35 m) and in fractured zones generally within 150 m bgl. Yields range from negligible to about 30 lps, with deeper fractures showing semi-confined to confined conditions.

Vindhyan Supergroup rocks have groundwater potential mainly in fractured sandstones, while shale units are poor aquifers. Groundwater occurs largely under unconfined conditions.

Volcanic rocks (Rajmahal Traps and other volcanics) store groundwater in vesicular zones and inter-trappean beds. Shallow aquifers are unconfined, whereas deeper vesicular zones exhibit semi-confined to confined conditions.

Gondwana Supergroup formations contain groundwater in inter-granular and secondary porosities, occurring under unconfined conditions at shallow depths and semi-confined to confined conditions at depth, with occasional artesian flow.

Laterites and Tertiary sediments act as localized aquifers with groundwater under unconfined to semi-confined conditions.

Younger Alluvium, occurring in patches, forms shallow unconfined aquifers, with dug wells tapping water at 10–15 m and shallow tube wells at 20–30 m depth.

X





# METHODOLOGY

## VERTICAL ELECTRICAL SOUNDING (VES) METHOD

Vertical Electrical Sounding (VES) is a geophysical technique employed for the comprehensive investigation of subsurface geology, geo-technical site characteristics, and hydrogeological properties. This method entails measuring the apparent resistivity of the subsurface at various depths through the injection of a direct current into the ground via two electrodes, coupled with the measurement of the resulting potential difference between two additional electrodes.

Resistivity sounding, a specific application of VES, is a method aimed at studying vertical variations in the resistivity of the subsurface. This approach involves maintaining the center of the electrode configuration fixed while progressively increasing the electrode spacings during measurements. The apparent resistance values obtained through this process help estimate the thicknesses and resistivities of different subsurface layers. The resistivity of subsurface materials is contingent upon their composition and moisture content. As electrode separations increase, variations in apparent resistivity provide valuable insights into the sub surface's composition. Geophysicists analyze these data to determine the thickness, depth, and composition of subsurface layers. Furthermore, the resistivity data aids in identifying the presence of groundwater and other geological features.

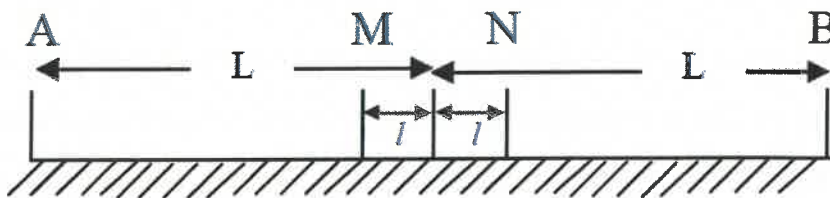
The injection of current (I) into the ground is executed through two outer electrodes, while the measurement of potential difference (V) is taken between the inner electrodes. The relationship between potential difference and the injected current ( $V/I$ ) yields the Resistance (R). The Schlumberger array, a commonly employed electrode configuration, involves four electrodes arranged in a line, with the two inner electrodes (Potential electrodes) kept closed.

To enhance the depth of investigation, the current electrodes, labeled A and B, are symmetrically moved away from each other about the central point 'O' in

the Schlumberger array. Meanwhile, the potential electrodes remain fixed. The potential electrode separation is increased selectively when the potential difference falls below the measurement accuracy of the instrument. Each time the potential electrodes are shifted, measurements are repeated for a few current electrode separations.

The calculation of apparent resistivity for each current electrode separation is performed by multiplying the resistance value with the Schlumberger configuration factor. This factor takes into account the specific arrangement of electrodes in the Schlumberger array and is crucial for accurately determining the apparent resistivity at various depths.

This array is most widely used in electrical prospecting. The four electrodes (A, M, N, B) are placed along a straight line symmetrically over center point 'O'. The separation between potential electrodes (MN) is kept small when compared to the current electrode separation AB. Current is sent through the outer electrodes AB and potential across MN (the inner electrodes) is measured in a similar way as in the Wenner array. Using  $L = AB/2$  and  $l = MN/2$  the configuration factor for the Schlumberger array is  $K = \pi(L^2 - l^2)/2l$



Schlumberger electrode array -  $\rho_a = [\pi(L^2 - l^2)/2l] * R$

VES is commonly used in groundwater exploration, mineral exploration, and engineering geology studies. It is a relatively inexpensive and non-invasive method that can provide valuable information about subsurface conditions without the need for drilling or excavation. However, it requires specialized equipment and expertise to perform and interpret the data correctly.



# PROCESSING/INTERPRETATION

## PROCESSING OF VES DATA

The processing of Vertical Electrical Sounding (VES) data has been undertaken using two distinct software platforms, employing different analysis approaches tailored to the statistical nature of the data and the impact of noise generated in the dump area, ultimately aimed at achieving optimal results. Two software tools, namely IPI2win, RES1D and the IGIS inbuilt software, were utilized for the data processing.

IPI2win software adopts a root mean square or regression-based linear inversion approach, offering a robust method for data analysis. On the other hand, the IGIS software relies on the inverse slope methods, particularly effective when dealing with highly scattered data types. While most of VES applications in various scientific communities favour an inversion-based approach for its efficacy, it may not perform optimally with discrete or highly scattered data.

In instances where data exhibit a high degree of scatter, the inverse slope method, as implemented by the IGIS software, proves to be a more suitable option. Recognizing the versatile statistical nature of VES data, both methods - the inversion-based approach and the inverse slope method - have been employed in a conjugate manner. This dual approach is designed to check the data noise parameters comprehensively, ensuring a more accurate and reliable outcome.

By strategically combining the strengths of both analysis approaches, this conjugate utilization aims to harness the advantages of each method, mitigating the limitations associated with specific data types. The careful consideration of noise parameters enhances the overall quality and reliability of the processed VES data, contributing to a more comprehensive understanding of subsurface characteristics and geological features.

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## OBSERVATION

One observation point is taken near **SATGAWAN BLOCK KODERMA** for spatial clearance.

As per the orientation is concerned a total electrode spread of 200 meters due to spatial restrictions is selected for the survey which can give an estimated depth of spread/3 i.e. around 60m.

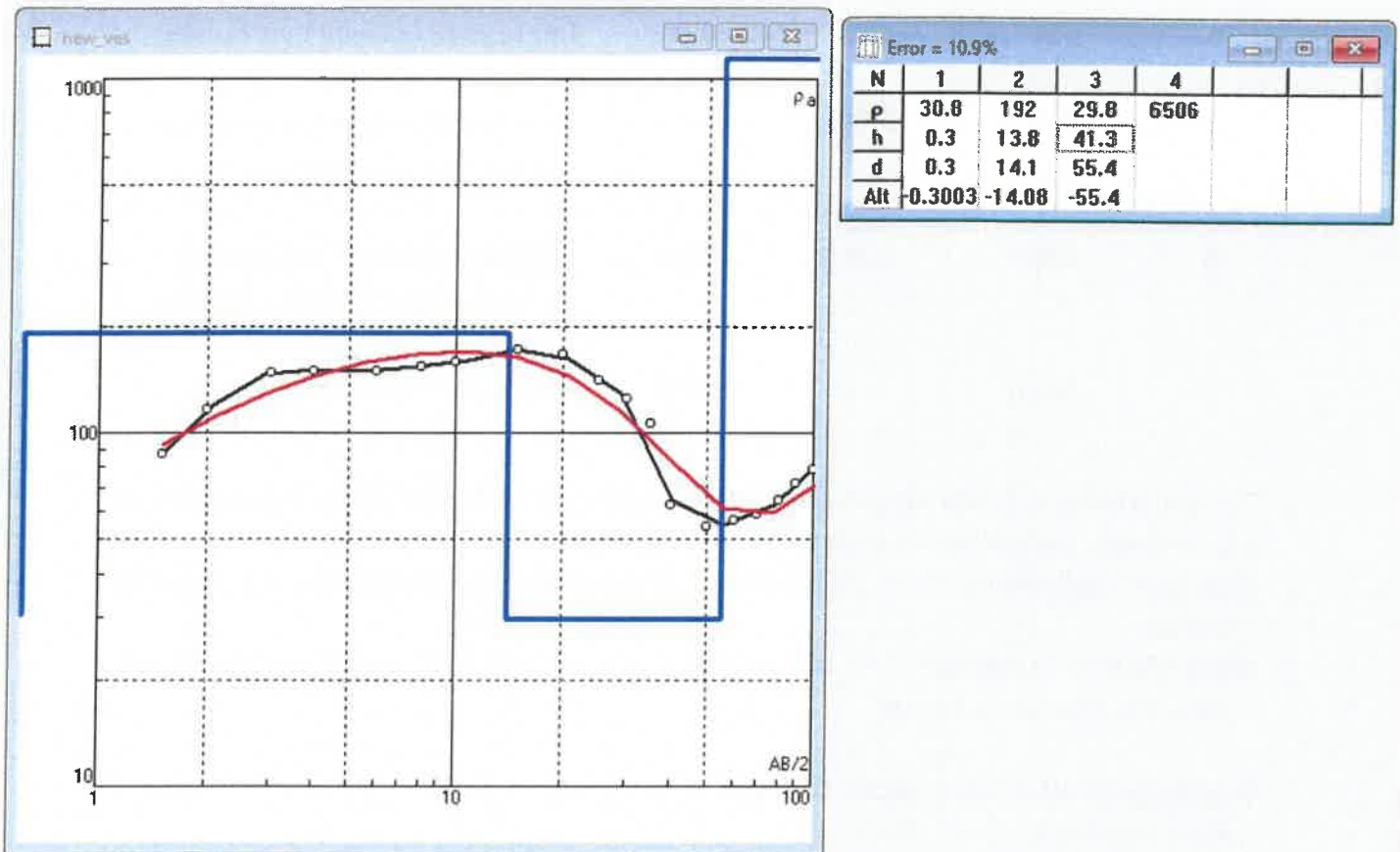


Fig: Resistivity Curve for Location 1.

2



## CONCLUSION/RECOMMENDATION

The curve represents an **H-type resistivity curve** ( $\rho_1 < \rho_2 > \rho_3 < \rho_4$ ), indicating a conductive layer sandwiched between resistive horizons.

A four-layer geo-electric model has been interpreted.

| Layer | Resistivity ( $\Omega\text{m}$ ) | Thickness (m) | Depth (m) | Geological / Hydrogeological Interpretation              |
|-------|----------------------------------|---------------|-----------|----------------------------------------------------------|
| 1     | ~31                              | ~0.3          | 0.3       | Thin topsoil / clayey overburden                         |
| 2     | ~192                             | ~13.8         | ~14.1     | Weathered to semi-weathered hard rock, moderately dry    |
| 3     | ~30                              | ~41.3         | ~55.4     | Highly fractured and water-saturated zone (main aquifer) |
| 4     | ~6506                            | —             | >55.4     | Fresh, compact basement rock                             |

**The third layer exhibits very low resistivity (~30  $\Omega\text{m}$ ) with significant thickness (~41 m), strongly indicating a saturated fractured zone.**

This layer represents the most promising groundwater-bearing horizon at the VES location.

Groundwater is expected to occur under semi-confined to confined conditions within the fractured aquifer.

**Recommended drilling depth: 65–80 m**

Target aquifer zone: 30–55 m bgl

Expected yield: Moderate to good (dependent on fracture connectivity)

AK

