



DISTRICT SURVEY REPORT

FOR

MINOR MINERAL – STONE/EARTH WORK

[OTHER THAN SAND MINING OR RIVER-BED MINING]

IN

BOKARO DISTRICT OF JHARKHAND STATE

As per Gazette Notification No. - S.O. - 3611 (E), 25th July 2018 by MoEF & CC

PREPARED BY:

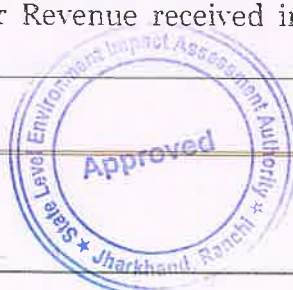
SUB-DIVISIONAL COMMITTEE
BOKARO DISTRICT, JHARKHAND

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



TABLE OF CONTENT

| Chapter No. | Description | Page No. |
|--------------------|---|-----------------|
| A | Index | 1-4 |
| B | Recommended by Sub-Divisional Committee and Deputy Commissioner, Bokaro | 5-5 |
| C | Preface | 6-7 |
| 1 | Introduction | 8-12 |
| | 1.1 Statutory framework | 8-9 |
| | 1.2 Methodology of DSR preparation | 9-12 |
| 2 | Overview of mining activity in the District | 13-33 |
| | 2.1 Overview of mining activity | 13-15 |
| | 2.2 Details of Expired Mining Leases in the District | 16-33 |
| 3 | General Profile of the District | 34-42 |
| | 3.1 General Information | 34-36 |
| | 3.2 Topography & Terrain | 37-37 |
| | 3.3 Demography | 37-38 |
| | 3.4 Connectivity in Bokaro District | 39-40 |
| | 3.5 Flora & Fauna | 40-40 |
| | 3.6 General Landforms | 41-41 |
| | 3.7 Soil | 42-42 |
| | 3.8 Geomorphology | 42-42 |
| 4 | Geology & Mineral Wealth of the District | 43-45 |
| | 4.1 Geology | 43-44 |
| | 4.2 Overview of Mineral Resources | 44-45 |
| 5 | Drainage System & Irrigation Pattern | 46-50 |
| | 5.1 Drainage System | 46-48 |
| | 5.2 Irrigation Pattern | 49-50 |
| 6 | Land Utilization Pattern of the District | 51-54 |
| | 6.1 Forest | 51-52 |
| | 6.2 Land Use Land Cover | 52-54 |
| 7 | Ground Water Scenario of the District | 55-63 |
| 8 | Rainfall & Climate of the District | 64-65 |
| 9 | Details of Mining Leases in the District | 66-78 |
| 10 | Details of Royalty or Revenue received in last three years | 79-79 |



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DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



| | | |
|-----------|--|----------------|
| 11 | Details of Production of Minor mineral in last three years | 80-80 |
| 12 | Mineral Map of the District | 81-81 |
| 13 | List of Letter of Intent (LoI) Holders in the District along with its validity | 82-87 |
| 14 | Total Mineral Reserve available in the District | 88-118 |
| 15 | Quality/Grade of mineral available in the District | 119-119 |
| 16 | Use of mineral | 120-123 |
| 17 | Demand and Supply of the mineral in the last three years | 124-124 |
| 18 | Mining Leases marked on the map of the District | 125-127 |
| 19 | Details of the area of where there is a cluster of mining leases viz. number of mining leases, location (Latitude and Longitude) | 128-128 |
| 20 | Details of Eco-Sensitive area, if any, in the District | 129-129 |
| 21 | Impact on the Environment (Air, Water, Noise, Soil, Flora & Fauna, Land use, Agriculture, Forest etc.) due to mining activity | 130-136 |
| 22 | Remedial measures to mitigate the impact of mining on the environment | 137-138 |
| 23 | Reclamation of mined-out area (best practice already implemented in the District, requirement as per rules and regulation, proposed Reclamation Plan) | 139-139 |
| 24 | Risk Assessment & Disaster Management Plan | 140-141 |
| 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) | 142-143 |
| 26 | Plantation and Green Belt development in respect of leases already granted in the District | 144-160 |
| 27 | Additional Information | 161-163 |
| | 29.1 Identified Potential Stone Deposits | |
| | References | 163-163 |

LIST OF FIGURES:

| Figure No. | Description | Page No. |
|----------------|--|----------|
| Figure No. 3.1 | Representative location of Bokaro District | 34 |
| Figure No. 3.2 | Block Map of Bokaro District | 37 |
| Figure No. 3.3 | Route Map of Bokaro District | 40 |
| Figure No. 3.4 | Map Showing Digital Elevation Model of Bokaro District | 41 |



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DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



| | | |
|-----------------|---|----|
| Figure No. 4.1 | Geological Map of Bokaro District | 43 |
| Figure No. 4.2 | Mineral Map of Bokaro District | 45 |
| Figure No. 5.1 | Drainage Map of Bokaro District | 48 |
| Figure No. 6.1 | Forest Cover Map of Jharkhand | 51 |
| Figure No. 6.2 | Land Use/Land Cover of Bokaro District | 53 |
| Figure No. 7.1 | Hydrogeological Map of Bokaro District, Jharkhand | 56 |
| Figure No. 7.2 | Exploratory Wells Drilled at Bokaro District | 57 |
| Figure No. 7.3 | Ground Water Prospect Map Of Bokaro District | 58 |
| Figure No. 12.1 | Mineral Map of Bokaro District | 81 |

LIST OF TABLES:

| Table No. | Description | Page No. |
|---------------|--|----------|
| Table No. 1.1 | Requirement of District Survey Report and its year-wise modification | 8-9 |
| Table No. 1.2 | Pictorial Descriptions of Physiographic Classification | 10-11 |
| Table No. 2.1 | Minor mineral's Leases in Bokaro District | 13-13 |
| Table No. 2.2 | Details of Expired Mining leases in the District | 16-33 |
| Table No. 3.1 | Sub-division of Block area and population wise details of Bokaro District | 35-35 |
| Table No. 3.2 | Block – Panchayat – Nos. of Villages | 35-35 |
| Table No. 3.3 | District Profile of Bokaro District | 35-36 |
| Table No. 3.4 | Demography of Bokaro District | 37-38 |
| Table No. 3.5 | Distance of Bokaro from some important places | 39-39 |
| Table No. 3.6 | Geographical Profile of Bokaro District | 42-42 |
| Table No. 4.1 | Generalized Stratigraphy of the Bokaro | 44-44 |
| Table No. 5.1 | Drainage System with description of main Rivers | 46-46 |
| Table No. 5.2 | Salient features of important River & Streams | 46-46 |
| Table No. 5.3 | Order of main Rivers of Bokaro District | 47-47 |
| Table No. 5.4 | Irrigation Pattern – Source of irrigation | 49-49 |
| Table No. 5.5 | Details of Irrigation Source & Facility | 50-50 |
| Table No. 5.6 | Coverage of irrigated area | 50-50 |
| Table No. 6.1 | District wise Forest Cover Area in Jharkhand | 52-52 |
| Table No. 6.2 | Land Use/Land Cover Classes | 54-54 |
| Table No. 7.1 | Exploratory Wells drilled by CGWB of Bokaro district | 55-56 |
| Table No. 7.2 | Exploratory Wells Drilled Through Outsourcing | 57-57 |
| Table No. 7.3 | Trend of Ground Water Level during Period 2002–2011 | 60-60 |
| Table No. 7.4 | Block wise Ground Water Resources of Bokaro District | 60-60 |
| Table No. 7.5 | Status of T/Wells as on 01.04.2012 | 61-61 |
| Table No. 7.6 | Dynamic Ground water Resources (2009) in mcm | 61-61 |
| Table No. 7.8 | Requirement of Surface Water Resources for Artificial Recharge to Ground Water | 62-62 |
| Table No. 7.9 | Number of Structures for Artificial Recharge | 62-62 |



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DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



| | | |
|----------------|---|---------|
| Table No. 8.1 | Average Rainfall of Bokaro District | 64-64 |
| Table No. 8.2 | Monthly average temperature distribution of Bokaro District | 65-65 |
| Table No. 9.1 | Details of Existing/Working Mining Leases in the District | 66-78 |
| Table No. 10.1 | Details of Royalty/Revenue received in last three years | 79-79 |
| Table No. 11.1 | Details of Production of Minor minerals in last three years | 80-80 |
| Table No. 13.1 | List of Letter of Intent (LoI) Holders in the District | 82-87 |
| Table No. 16.1 | Total Mineral Reserve available in the District | 88-95 |
| Table No. 18.1 | Mining Leases marked on the map of the District | 125-126 |

LIST OF DOCUMENTS:

| Sl. No. | Description | Page No. |
|---------|--|----------|
| 1 | Report from Circle Officers & Divisional Forest Officers against issued Letter of Intent (LoI) | |
| 2. | Letter from DMO regarding Advertisement in NIC Portal | |

LIST OF MAPS:

| Sl. No. | Description | Map No. |
|---------|---|---------|
| 1 | Existing/Working Mining Leases marked on map of Bokaro District | A |
| 2 | Map showing Mining Leases with Issued Letter of Intent (LOI) marked on Map of Bokaro District | B |
| 3 | Map showing Identified Potential Stone Deposits | C |



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND





Recommended by Sub-Divisional Committee and Deputy Commissioner, Bokaro


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PREFACE

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

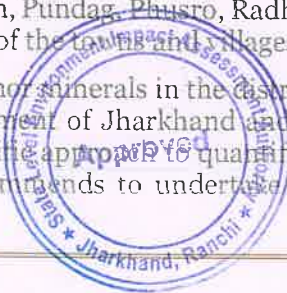
The main purpose of DSR is to identify the mineral potential areas to develop the mining activities along with relevant current geological data of the district where mining can be allowed; and also to distinguish the areas where mining will not be allowed due to proximity to infrastructural structures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

Bokaro district is one among 24 districts of Jharkhand State. Bokaro district administrative head quarter is Bokaro Steel City. It is located 112 km west towards State capital Ranchi. Bokaro District population is 2061918. It is 5th largest district in the State by population. It is located at Latitude 23° 24' 27" N to 23° 57' 24" N and Longitude 85° 34' 30" E to 86° 29' 10" E. It falls under Survey of India Toposheet Nos. - 73 E/9, E/10, E/13, E/14, 73 I/1, I/2, I/5 and I/6. Bokaro district is sharing border with Dhanbad district to the East, Ramgarh district to the West, Purulia district to the South. It is sharing border with West Bengal State to the East. Bokaro district occupies an area of approximately 2861 km². It lies between the '273 meters to 158 meters' elevation range. This district belongs to Hindi belt of India. Hindi is the local language here. Also People Speaks Santhali. Bokaro district is divided into 9 Blocks, 252 Panchayats, 1409 Villages. Kasmar block is the smallest block by population with 76221 population. Chas block is the biggest block by population with 698625 population. Bokaro District's total population is 2061918 according to Census 2011. Males are 1076158 and Females are 985760. Literate people are 1364165 among total. Its total area is 2861 km². It is the 5th largest district in the State by population but 13th largest district in the State by area, 221st largest district in the Country by population, 5th highest district in the State by literacy rate & 305th highest district in the Country by literacy rate. Its literacy rate is 73.48.

The Damodar river is the most important river in the district which flows from West to East in the Central part of the District. The major tributaries of Damodar are Konar and Jamuniya. The minor tributaries of the Damodar river are Isri, Gobai, Tasharkhan, Kadwa, Khanju etc.

District Headquarter Bokaro Steel City is well connected by road. Bokaro Steel City, Phusro, Chandrapura, Gumia, Tenu Dam-cum-Kaithhara are the cities in this district having road connectivity to major towns and remote villages. Bokaro Steel City is about 112 km by road to Ranchi (Capital of Jharkhand). Some of the railway stations in District are Bokaro Steel City, Chandrapura Junction, Pundag, Phusro, Radhagaon, Bokaro Thermal, Bhandaridah, Gumia etc. which connects most of the towns and villages of the district.

The occurrence of Minor minerals in the district have been established by Department of Mines and Geology, Government of Jharkhand and others in previous instances. It requires further systematic and scientific approach to quantify the resource along with their grade assessment. This report also recommends to undertake detail exploration program to assess the Minor



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



mineral occurrences in the district and should have a proper development and production plan for the specified minerals so as to satisfy the demand and supply gap of Minor minerals in the district.



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



1. INTRODUCTION

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

The Objectives of the District Survey Report are as following:

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

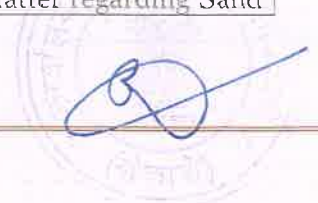
The District Survey report (DSR) is comprised of secondary data published and endorsed by various Departments and websites about geology of the area, mineral resources, climate, topography, land form, forest, rivers, soil, agriculture, road, transportation, irrigation etc. Data on lease and mining activities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

1.1 Statutory Framework:

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

Table 1.1: Requirement of District Survey Report & its year wise modification

| Year | Particulars |
|------|--|
| 1994 | The Ministry of Environment, Forest & Climate Change (MoEF & CC) published Environmental Impact Assessment Notification 1994 which is only applicable for the Major minerals having mining lease area more than 5 Ha. |
| 2006 | In order to cover the minor minerals also into the preview of EIA, the MoEF & CC issued EIA Notification S.O. - 1533 (E), dated 14 th September 2006, made mandatory to obtain Environmental Clearance for both Major & Minor mineral having mining lease area more than 5 Ha. |
| 2012 | Further, Hon'ble Supreme Court wide order dated 27 th February 2012 in I.A. No. - 12-13 of 2011 in Special Leave Petition (C) No. - 19628-19629 of 2009, in the matter of Deepak Kumar etc. Vs. State of Haryana and Others etc., ordered that "leases of minor minerals including their renewal for an area of less than five hectares be granted by the States/Union Territories only after getting environmental clearance from MoEF & CC"; and Hon'ble National Green Tribunal, order dated 13 th January, 2015 in the matter regarding Sand |



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND

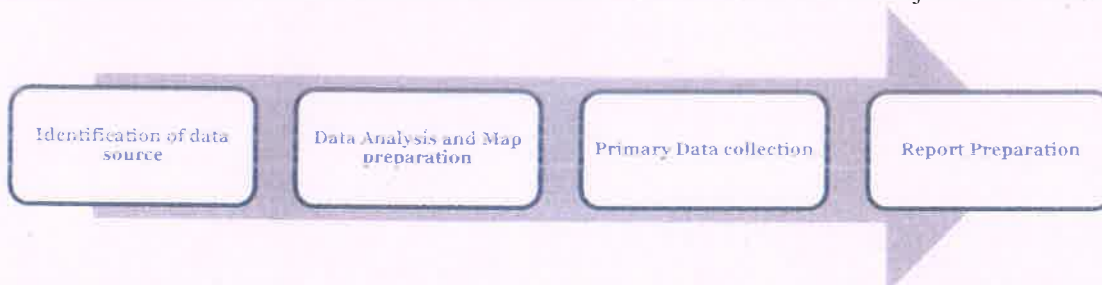


| | |
|-------------|---|
| | mining has directed for making a policy on Environmental Clearance for mining leases in cluster for Minor minerals. |
| 2016 | The MoEF & CC in compliance of above Hon'ble Supreme Court's and NGT's order has prepared "Sustainable Sand Mining Guidelines (SSMG), 2016" in consultation with State Governments, detailing the provisions on Environmental Clearance (EC) for cluster, creation of District Environment Impact Assessment Authority, preparation of District Survey Report and for proper monitoring of minor mineral. Thereby issued notification dated 15.01.2016 for making certain amendments in the EIA Notification, 2006, and made mandatory to obtain EC for all minor minerals. Provisions have been made for the preparation of District Survey Report (DSR) of River-bed material and other minor minerals. |
| 2018 | MoEF & CC published a notification S.O. - 3611(E) Dated 25 th July 2018 and recommended the format for District Survey Report for Minor minerals other than Sand mining or River-bed mining. The notification stated about the objective of DSR, i.e. "identification of the mineral potential areas to develop the mining activities along with relevant current geological data of the District where mining can be allowed; and also to distinguish the areas where mining will not be allowed due to proximity to infrastructural structures and installations." |

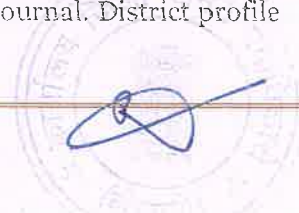
➤ The Ministry of Environment Forest & Climate Change formulated the format of District Survey Report for Minor minerals other than Sand Mining or River-bed Mining which focuses on the management of Minor mineral's mining in the country. But in the recent past, it has been observed that apart from management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

1.2 Methodology of DSR Preparation:

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



Data source Identification: District Survey Report has been prepared based on the primary data base collected from different sources. The data sources which are used in DSR are mostly based on Government published data or the published report in reputed journal. District profile



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



has been prepared based on the District Census 2011. Potential mineral resources have been described based on GSI or any other Govt. agencies work done. Mining lease details and the revenue generated from Minor minerals has been prepared based on available data from District Mining Office of the district. Satellite image has been used for map preparation related to physiography and land utilization pattern of the district.

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





Land Use and Land Cover Map:

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

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

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



Table 1.2: Pictorial Descriptions of Physiographic Classification

| | |
|--|--|
|  |  |
| <p>Agricultural Land - Based on their Geometrical shape, Red and Pink color tone, Agricultural Land has been identified.</p> | <p>Vegetation Covered Area - Based on their continuous Red color tone, Vegetation Covered Area has been identified.</p> |
|  |  |
| <p>Agricultural Fallow Land - Based on their Geometrical shape, Light and dark Cyan with light Pink color tone, Agricultural Fallow Land has been identified.</p> | <p>Bad Land Topography - Light Yellowish mixed with Cyan color has been identified as Bad Land Topography.</p> |



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



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|---|--|
|  |  |
| <p>Settlement – Area with Cyan color including geometrical shape has been recognized as Settlement Area.</p> | <p>Water Bodies – Dark Blue color has been classified as Water Bodies.</p> |

Geomorphological Map:

The major steps of preparing Geomorphological Map is identifying features like – Alluvial Fan, Alluvial Plain, Hilly region etc. from Satellite imagery (FCC - False Color Composition) via Visual Image Interpretation and then digitization has been taken into the consideration to prepare map including all the Geomorphological features according to their location.

Physiographical Map:

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

Block Map:

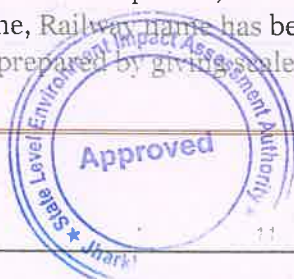
- Raw Data collected from **National Informatics Centre (NIC Website)** during March 2022 and October 2022.
- Data has been geo-referenced using GIS software.
- Digitization of Block boundary, District Boundary, State Boundary, International Boundary and District Headquarter, sub–district Headquarter, Places, Road, Railway, River, Nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Transportation Map:

- Raw Data collected from **National Informatics Centre (NIC Website)** during March 2022 and October 2022.
- Data has been geo-referenced using GIS software.
- Digitization of Block boundary, District Boundary, State Boundary, International Boundary and District Headquarter, sub–district Headquarter, Places, Road, Railway, River, Nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Drainage Map:

- Raw Data collected from **National Informatics Centre (NIC Website)** during March 2022 and October 2022.
- Data has been geo-referenced using GIS software.
- Block boundary, District Boundary, State Boundary, International Boundary & District Headquarter, sub–district Headquarter, Places, Road, Railway, River, Nala etc.
- Road name, River name, Railway name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND
MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



Earthquake Map:

- Raw data collected from **Ministry of Earth Science.**
- Data has been geo-referenced using GIS software.
- Digitization of Earthquake zone and superimposed it over Block Boundary.
- Zone name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

Soil Map:

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

Wildlife Sanctuary and National Park Location Map:

- Raw data collected from **ENVIS Centre on Wildlife & Protected Areas** during August 2022.
- Data has been geo-referenced using GIS software.
- Digitization of Wildlife Sanctuary & National Park and superimposed it over Block Boundary.
- Wildlife Sanctuary & National Park name has been filled in attribute table of the Layers.
- Final layout has been prepared by giving scale, legend, north arrow, etc.

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

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





2. OVERVIEW OF MINING ACTIVITY IN THE DISTRICT

2.1 Overview of mining Activity:

The State stretches over 79,714 km² geographical areas with 29.61% forest area and owns about 40% of total mineral resources of India. The State occupies 1st position in coal reserves, 2nd position in Iron, 3rd position in Copper ore reserve and 7th position in Bauxite reserve and is the sole producer of prime coking coal. Limestone, Dolomite, Manganese, Mica, China Clay, Graphite, Soap stone, Fire Clay, Coal Bed Methane, Uranium, Phosphorite, Apatite, Quartz, Feldspar, Gold and Pyroxenite are the other important minerals available in huge quantities in State. Bokaro came into existence as a district on 1st April, 1991. Prior to this, it formed part of Dhanbad & Giridih district. Bokaro district is famous for steel manufacturing unit. The Bokaro district is rich in Coal minerals and other Major minerals are Limestone & Coal Bed Methane (CBM). Other mineral like Stone, Sand, Limestone, Quartz, Soil/Clay etc. are also available in the district. Jharkhand is known for its rich mineral resources. The main mineral resources found in Bokaro district are Coal, Limestone, CBM and Stone Chips, building & road construction Stones, Quartzite, Soil/Clay etc. The mining in these leases is regulated as per different mineral concession rules of Jharkhand. At present, 06 leases of Stone and 02 leases of Quartzite are operational in the Bokaro district.

Table 2.1: Minor mineral's Leases in Bokaro District

| Sl. No. | Name of Mineral | Total No. of Leases in Bokaro District |
|---------|-----------------|--|
| 1 | Stone | Working Leases - 19 |
| 2 | Quartzite | Working Leases - 02 |
| 3 | Stone | Non-Working Leases- 6 |
| 4 | Tone | Expired Leases- 88 |
| 5 | Brick Earth | 12 |

Table 2.1.1: Major mineral's Leases in Bokaro District

| Sl. No. | Name of Mineral | Total No. of Leases in Bokaro District |
|---------|-----------------|--|
| 1 | Coal | Working Leases - 10 |



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



ज़िला खनन कार्यालय, बोकारो ॥

बोकारो जिले में स्वीकृत कोयला खानिज के खनन पट्टों की विवरणी ॥

| क्र० | खानिज का नाम | खानिज का नाम | खनन क्षेत्र का विवरण | | |
|------|-------------------|--------------|----------------------|--------------------------|-----------|
| | | | अंचल | ब्लॉक | अभ्युक्ति |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | तलवा सं० सी० एल० | क्रांदा | भेन्ना | नरगाडीक कालिथरी | घालू |
| 2 | तद्वे | तद्वे | नरगाडीक | गोविन्दपुर कुल्की | घालू |
| 3 | तद्वे | तद्वे | नरगाडीक | गोविन्दपुर फीज-2 | घालू |
| 4 | तद्वे | तद्वे | धरना | बोकारो कालिथरी | घालू |
| 5 | तद्वे | तद्वे | धरना | तारी अभिनकास्ट | घालू |
| 6 | तद्वे | तद्वे | बेल्ना | बोकार एक्सपेन्स (बोकारो) | घालू |
| 7 | तद्वे | तद्वे | बेल्ना | उमै खात फालिथरी | घालू |
| 8 | तद्वे | तद्वे | बेल्ना | एस्पाईन्डो/तद्वे | घालू |
| 9 | तद्वे | तद्वे | बेल्ना | अमली फालिथरी | घालू |
| 10 | तद्वे सं० सी० एल० | तद्वे | दुम्का | धरनाडा फालिथरी | घालू |



(Signature)

DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND



जिला खनन कार्यालय, बोकारो ।

बोकारो जिले में स्वीकृत कोयला खनिज के खनन पट्टों की विवरणी ।

| क्र० | पट्टेधारी का नाम | खनिज का नाम | खनन क्षेत्र का विवरण | | |
|------|----------------------------|-------------|----------------------|-------------------|------|
| | | | अंचल | मौजा | अवधि |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | सुधीर सिंह सैनी | कोयला | सहारजोरी | सुधीर (सुधीरपुरी) | बन्द |
| 2 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 3 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 4 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 5 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 6 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 7 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 8 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 9 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 10 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 11 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 12 | तद्वैद्य | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 13 | डी०एन०सी० कन्सा नहल्लर | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 14 | सुधीर सिंह सैनी | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |
| 15 | इलाहाबादीक इन्डिया लिमिटेड | तद्वैद्य | बेल्वा | सुधीर (सुधीरपुरी) | बन्द |

बोकारो जिले में स्वीकृत क्षेप्याभरण (बालू) खनिज के खनन पट्टों की विवरणी ।

| क्र० | पट्टेधारी का नाम | खनिज का नाम | खनन क्षेत्र का विवरण | | |
|------|--|------------------|----------------------|------------------------------|------|
| | | | अंचल | मौजा | अवधि |
| 1 | 2 | 3 | 4 | 5 | 6 |
| 1 | नेसर्स टाटा स्टील लिमिटेड, जामाडोवा, धनबाद | क्षेप्याभरण बालू | खन्डनकियारी | मौजा-महाल सहारजोरी एवं बोगला | बालू |
| 2 | तद्वैद्य | तद्वैद्य | खन्डनकियारी | मौजा-महाल एवं लालगा | घातू |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

2.2 Details of Expired Mining Leases in the District:

| क्र० सं० | पट्टेधारी का नाम एवं पता | खनिज का नाम | मौजा / खाता नं० / प्लॉट नं० / रकवा | अभ्युक्ति |
|----------|---|-------------|--|--|
| 1 | 2 | 3 | 4 | 5 |
| 1 | सर्वश्री अमानत खनन उद्योग सप्लायर्स, प्र० श्री अब्दुल हालिम अंसारी, पिता श्री अब्दुल लतीफ अंसारी, ग्राम-नवडीहा, टोला रहरगोडा, पो-बांसतोड़ा, थाना-चन्दनकियारी, जिला-बोकारो। | पत्थर | मौजा-नौडिहा, खाता नं०-180, प्लॉट नं०-601(अंश), रकवा- 1.00 एकड़ | 09 / 02 / 2008 से 08 / 02 / 2018 |
| 2 | श्री विनित अग्रवाल, वन्द स्व० बिनोद कुमार अग्रवाल, ग्राम-न्यू रोड, फुसरो बाजार, थाना-बेरमो, जिला-बोकारो। | पत्थर | अंचल+थाना-जरीडीह, मौजा-बौधडीह खाता संख्या-113, प्लॉट संख्या-47, 64, रकवा- 6.02 एकड़ | 27 / 01 / 2017 से 26 / 01 / 2022 |
| 3 | श्री कविता राज एण्ड कन्स्ट्रक्शन, प्र० श्रीमती कविता देवी, पति श्री नन्द किशोर महतो, ग्राम+पो-तुपकाडीह, थाना-जरीडीह, जिला-बोकारो। | पत्थर | मौजा-कातरबेड़ा, खाता नं०-09, प्लॉट नं०-49(अंश), रकवा- 0.50 एकड़ | 27 / 01 / 2010 से 26 / 01 / 2010 |
| 4 | श्री तेजनारायण हांसदा, पिता श्री मोहन हांसदा, ग्राम-खुंटरी, पो-तुपकाडीह, थाना-जरीडीह, जिला-बोकारो। | पत्थर | मौजा-खुंटरी, खाता नं०-130, प्लॉट नं०-1926(अंश), रकवा-0.80 एकड़ | 16 / 05 / 02 से 15 / 05 / 2012 |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| | | | | |
|---|--|-------|---|-----------------------------------|
| 5 | वन्दलोक इन्टरप्राइजेज, पाटं श्री सुधील कु० थावनानी, पिता श्री गोपाल दास थावनानी, (2) श्रीमति लाजवन्ती थावनानी, पति श्री गोपाल दास थावनानी, बाईपास रोड, चास, जिला-बोकारो। | पत्थर | मौजा-अमडीहा, खाता नं०-175, 177, प्लॉट नं०-179, 181, 182, 183(अंश) रकवा-1.99 एकड़ | 24 / 05 / 04 से 23 / 11 / 2012 |
| 6 | सर्वश्री दौतू खनन श्रमिक सहयोग समिति लि०, अध्यक्ष श्री बिनोद कुमार नायक, पिता श्री शिवशंकर नायक, सधिव श्री पंकज कुमार, पिता श्री सहदेव साव, दोनोँ ग्राम+पो०+थाना-कसमार, बोकारो। | पत्थर | मौजा- मायापुर, थाना- पेटरवार, खाता नं०-25, प्लॉट नं०-471(अंश), रकवा-1.00 एकड़ | 26 / 02 / 09 से 25 / 02 / 2019 |
| 7 | सर्वश्री जय मों स्टोन माईन्स, प्र० श्री नेमा मुण्डा, पिता श्री शनिचर मुण्डा, ग्राम-वगड़ी, पो०-तिरला, थाना-महुआटांड, जिला-बोकारो। | पत्थर | मौजा-गंगपुर, थाना-महुआटांड, खाता नं०-17, प्लॉट नं०-354(अंश), रकवा- 1.70 एकड़ | 22 / 11 / 08 से 21 / 11 / 2018 |
| 8 | सर्वश्री ज्योति इन्टरप्राइजेज, पाटं श्री मोहन लाल जैन, पिता श्री श्री राम जैन, C/38, सिटी सेन्टर, सेक्टर IV, बी० एस० सिटी | पत्थर | मौजा-नावाडीह, खाता नं०-56, प्लॉट नं०-535(अंश) रकवा-3.68 एकड़ | 05 / 02 / 02 से 04 / 02 / 2012 |



**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND**



| | | | | |
|----|--|-------|---|--|
| 9 | श्रीमति विधि चौधरी, पति श्री सदीप चौधरी, प्लॉट नं० 135, को-ऑपरेटिव कॉलोनी, बी० एस० सिटी० | पत्थर | अंचल-चास, सेक्टर-12 थाना, मौजा-उकरीद, प्लॉट नं०-1294 (अंश), 1303(अंश), 1315(अंश), 1300, 1302, 1316, 1330(अंश), 1329(अंश), 1317 एवं 1318, रकवा- 9.25 एकड़ | 05 / 03 / 07 से 04 / 03 / 2017 |
| 10 | सर्वश्री मॉ छिन्मरितिका स्टोन वर्क्स, प्र० श्री तरुण कुमार, पिता श्री राम प्रसाद महतो, ग्राम+पो०-तुपकाडीह, थाना-जरीडीह, जिला-बोकारो। | पत्थर | मौजा-खूटरी, खाता नं०-20, प्लॉट नं०-156(अंश), रकवा- 1.00 एकड़ | 20 / 09 / 03 से 19 / 03 / 2013 |
| 11 | मै० मॉ छिन्मरितिका स्टोन क्रशर, पार्ट० (1) श्री कुलदीप सिंह, पिता श्री सरदार जसवंत सिंह, (2) श्री अनिल कुमार सिंह, पिता श्री राम बिलास सिंह एवं (3) श्री सुधीर कुमार सिंह, पिता स्व० राम सागर सिंह, म०-बीच बाजार, हाउस नं०-423, म०+पो०--जरीडीह बाजार, थाना--गांधीनगर, बेरमो, जिला-बोकारो | पत्थर | अंचल+थाना-पेटरवार, मौजा-नावाडीह, खाता संख्या-72, 35, 92, 36, 01, 04, प्लॉट संख्या-322 से 329 एवं 331 से 333 रकवा-4.44 एकड़ | 31 / 03 / 2022 तक अवधि विस्तारित |
| 12 | सर्वश्री मॉ शेरवाली क्रशर एण्ड क्वाथरी, पार्टनर श्री अर्जुन महतो, पिता श्री सोहन महतो, ग्राम+पो०-राधानगर, थाना-बालीडीह, जिला-बोकारो। श्री धनराज सिंह, पिता श्री सस्यु सिंह, ग्राम-सरस्वती नगर, बंशीडीह, पो०-चास, जिला-बोकारो। | पत्थर | मौजा-सतनपुर, खाता नं०-102, प्लॉट नं०-392(अंश), रकवा-1.43 एकड़ | 15 / 12 / 07 से 14 / 12 / 2017 |


 जिलाधिकारी, जिला-बोकारो



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| | | | | |
|----|---|-------|---|---------------------------|
| 13 | सर्वश्री माँ तारा कंसद्रक्खन, प्रो० श्री धर्मेन्द्र सिंह, पिता श्री नकुल सिंह, ग्राम-खुंटरी, पो०-तुपकाडीह, थाना-जारीडीह, जिला-बोकारो। | पत्थर | मौजा-खुंटरी, खाता नं०-21, प्लॉट नं०-1227(अंश), 1228(अंश), रकवा-1.50 एकड़ | 02/07/08 से 01/07/2018 |
| 14 | सर्वश्री माँ वैष्णव क्रषर, पाट० (1) श्री उपेन्द्र कुमार सिंह, पिता श्री सुखनन्दन सिंह, 345, को-ऑपरेटिव कॉलोनी, बोकारो स्टील सिटी (2) श्री मनराज सिंह, पिता स्व० सरजुग सिंह, राणा प्रताप नगर, चास, बोकारो (3) श्री सुरेश सिंह, पिता श्री राम लखन सिंह, सी०/20डी, सिटी सेन्टर, सेक्टर-4, बोकारो स्टील सिटी | पत्थर | मौजा-पुपनकी, थाना-चास(मु०), खाता संख्या-119, प्लॉट संख्या-36, 38, 39, 41, 42 रकवा-2.00 एकड़ | 08/09/09 से 07/09/2019 |
| 15 | सर्वश्री न्यू नेशनल इन्टरप्राइजेज, प्रो० श्री अब्दुल कयूम, पिता स्व० बधीर अहमद, गौस नगर, मकान नं०-55, बोकारो स्टील सिटी। | पत्थर | अंचल-चास, थाना-चास(मु०), मौजा-डोमरजोर, खाता नं०-17, प्लॉट संख्या-1023, 1024, 1025, 1033, रकवा- 2.00 एकड़ | 25/06/10 से 24/06/2020 |
| 16 | सर्वश्री आर० बी० इन्टरप्राइजेज, प्रो० श्री बैद्यनाथ प्रसाद यादव, पिता श्री नन्दु यादव, ग्राम+पो०-उतासारा, थाना-पेटरवार, जिला-बोकारो। | पत्थर | मौजा-उतासारा, खाता नं०-27, प्लॉट नं०-1437, रकवा-0.51 एकड़ | 19/07/01 से 18/07/2011 |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| | | | | |
|----|--|-------|--|---|
| 17 | सर्वश्री सतगुरु साईं स्टोन, पाटं0 (1) श्री योगेन्द्र कुमार सिंह, पिता स्व0 राम दहीन सिंह, शिवपुरी कौलोनी, जोधाडीह मोड़, चास, जिला-बोकारो। | पत्थर | अंचल-चास, थाना-पिण्डाजोरा, मौजा-तेलमटिया, खाता नं0-18, 45, प्लॉट संख्या-79, 86, रकवा-2.16 एकड़ | 06 / 09 / 10 से 05 / 09 / 2020 |
| 18 | सर्वश्री माँ बसन्ती स्टोन साईंन्स, पाटं0 (1) श्री सरोज कुमार दुबे, पिता श्री जनार्दन किशोर दुबे, (2) श्री सनोज कुमार दुबे, पिता श्री जितेन्द्र नाथ दुबे, (3) श्री मुकेश कुमार दुबे, पिता स्व0 शिव शंकर दुबे, तीनों ग्राम-बेलुन्जा, पो0-बिजुलिया, थाना-चास(मु0), जिला-बोकारो। | पत्थर | मौजा-बेलुन्जा, खाता नं0-156, प्लॉट संख्या-1833(अंश), रकवा- 1.00 एकड़ | 23 / 08 / 10 से 22 / 08 / 2020 |
| 19 | सेसर्स माँ लक्ष्मी स्टोन साईंन्स, प्र0 श्री अशोक कुमार सोरेन, पिता श्री लालदेव माँझी, मो0-केन्दुवाडीह, पो0-जैनामोड़, थाना-जरीडीह, जिला-बोकारो। | पत्थर | अंचल+थाना-जरीडीह, मौजा-तांतरी, खाता नं0-113, 138, 119, 103, प्लॉट संख्या-1192(अंश), 1193, 1194, 1195, 1196(अंश), 1197, 1198, कुल रकवा-5.56 एकड़ | 31 / 03 / 2022 तक अर्वाधि विस्तारित |
| 20 | मो0 नईम अंसारी, पिता स्व0 हाजी कासिम अली अंसारी, ग्राम-नौडीहा, टोला-रहरगोडा, पो0-बासतोडा, थाना-चन्दनकियारी, जिला-बोकारो। | पत्थर | अंचल+थाना-चन्दनकियारी, मौजा-भाराजोरी, खाता नं0-113, प्लॉट नं0-1945(अंश), रकवा-2.50 एकड़ | दिनांक 31 / 03 / 2022 तक अर्वाधि विस्तारित |


District Surveyor, Bokaro District, Jharkhand





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

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| 21 | सर्वश्री अमित स्टोन, प्रो श्री सुनील शर्मा, पिता श्री केदार नाथ शर्मा, ग्राम--चमसोबाद, पो0-खमारबेन्दी, थाना-वास(शु0), जिला-बोकारो। | पत्थर | अंचल-वास, थाना-वास(शु0), मौजा-धोबनी, खाता नं0-64, प्लॉट नं0-1569, रकवा-1.34 एकड़ | 25 / 08 / 2011 से 24 / 08 / 2021 |
| 22 | मेसर्स अकित स्टोन माइन्स, पार्ट0 1, श्री प्रेमचन्द सोरेन, पिता श्री बहून मांझी, ग्राम--तोलाडीह, पो0-तांतरी, थाना-जरीडीह, जिला-बोकारो। 2. श्री हरप्रित सिंह जग्गी, पिता श्री नरेन्द्र सिंह जग्गी, ग्राम+पो0-जैनामोड़, थाना-जरीडीह, जिला-बोकारो | पत्थर | अंचल+थाना-जरीडीह, मौजा-तांतरी, खाता नं0-132, 103, प्लॉट संख्या-1442, 1443, 1444, 1449, 1450, 1451, 1473(अंश), रकवा-4.36 एकड़ | 31 / 03 / 2022 तक अवधि विस्तारित |
| 23 | क्लासिक इजिकोन प्रा0 लि0, प्राधिकृत हस्ताक्षरकर्ता श्री विनायक कुमार, पिता श्री ब्रज किशोर कुमार, प्लॉट नं0-बी0-1, फेज-1, पुराना यूनाइटेड बैंक के बंगल में, बालीडीह, जिला-बोकारो, स्थायी पता-3डी वाटिका अपार्टमेन्ट, लाईन टैंक रोड, रौंवी-824001 | पत्थर | अंचल+थाना-कसमार, मौजा-बगियारी, खाता नं0-18, 173, 183, प्लॉट संख्या-1949, 1951, 1955, 1950, 1952, 1958, रकवा- 5.20 एकड़ | 15 / 01 / 2017 से 14 / 01 / 2022 |
| 24 | दिलिप बिल्डकॉन लिमिटेड, प्राधिकृत हस्ताक्षरकर्ता श्री विमलकांत शुक्ला, पिता श्री राधे श्याम शुक्ला, स्थायी पता-युना भट्टी, कालार रोड, भोपाल, मध्य प्रदेश, स्थानीय पता-फुसरो रोड, पो0-जैनामोड़, थाना-जरीडीह, जिला-बोकारो | पत्थर | मौजा - चरगी, थाना-पेटरवार, खाता नं0-16, 46, 44, 73, प्लॉट संख्या-10, 05, 06, 09, कुल रकवा- 9.84 एकड़ | 03 / 09 / 2015 से 02 / 09 / 2017 |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

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| 25 | दिलिप बिल्डकॉन लिमिटेड, प्राधिकृत हस्ताक्षरकर्ता श्री विमलकांत शुक्ला, पिता श्री राधे श्याम शुक्ला, स्थायी पता-बुना भट्टी, कालार रोड, भोपाल, मध्य प्रदेश, स्थानीय पता-फुसरो रोड, पो0-जैनामोड़, थाना-जरीडीह, जिला-बोकारो | पत्थर | मौजा-नावाडीह, खाता नं0-01, 110, 111, 145, प्लॉट संख्या-656, 653, 654, 630, 644, 651, 658(अंश), 650, 655(अंश), 657(अंश), 652, 660, 659, 631, रकवा-9.80 एकड़ | 03/09/2015 से 02/09/2017 |
| 26 | सर्वश्री ज्योति मिनर्ल्स, प्रो0 श्री मोहन लाल जैन, पिता श्री राम जैन, सी/38, सिटी सेक्टर, सेक्टर-4, बोकारो स्टील सिटी। | पत्थर | अंचल-चास, थाना+मौजा- पिण्डाजोरा, खाता नं0-08, प्लॉट नं0-3377, 3378, 2828(अंश), 2833 (अंश), 2834(अंश), 2882 (अंश), 2820(अंश), रकवा-2.07 एकड़ | 27/05/08 से 26/05/2018 |
| 27 | मे0 ज्योति मिनर्ल्स, प्रो0 श्री मोहन लाल जैन, पिता स्व0 श्रीराम जैन, प्लॉट नं0-सी/38, सिटी सेक्टर, सेक्टर-4, बोकारो स्टील सिटी, जिला-बोकारो | पत्थर | अंचल-चास, पिण्डाजोरा-थाना, मौजा-कैलियाडाबर, खाता नं0-136 के प्लॉट संख्या-1104(अंश) के रकवा-5.00 एकड़ | 15/01/2017 से 14/01/2022 |
| 28 | सर्वश्री कामाख्या मिनर्ल्स, प्रो0 श्री लक्ष्मी नारायण सिंह, पिता स्व0 इन्द्र नारायण सिंह, ग्राम+पो0-जैनामोड़, थाना-जरीडीह, जिला-बोकारो। | पत्थर | अंचल+थाना-जरीडीह, मौजा-खुंदरी, खाता नं0-18, प्लॉट संख्या- 228, रकवा-0.69 एकड़ | 28/09/10 से 27/09/2020 |
| 29 | सर्वश्री कीर्ति इन्टरप्राइजेज, फाट0 श्री योगेन्द्र प्रसाद, पिता श्री उमा चरण महतो, ग्राम+पो0-तेलो, थाना-चन्द्रपुरा, जिला-बोकारो | पत्थर | अंचल+थाना-चन्द्रपुरा, मौजा-तेलो, खाता नं0-291, प्लॉट नं0-1318, रकवा- 1.68 एकड़ | दिनांक 31/03/2020 तक |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND



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| 30 | सर्वश्री लक्ष्मी कंसद्रखन, प्रो० श्रीमती अरुण बाला देवी, पत्नी श्री सत्येन्द्र नारायण सिंह, ग्राम-खुटरी, टोला-भुटकुरु, पो०-तुपकाडीह, थाना-जरीडीह, बोकारो | पत्थर | अंचल+थाना-जरीडीह, मौजा-भुटकुरु (खुटरी), खाता नं०-128, प्लॉट संख्या-1931(अंष), रकवा-0.80 एकड़ | 28/04/11 से 27/04/2021 |
| 31 | मेसर्स माँ छिन्नमस्तिका स्टोन क्वारी, पाट० 1. श्री राधा नाथ माँझी, पिता श्री श्यामलाल माँझी, 2. श्री तरुण कुमार, पिता श्री राम प्रसाद महतो, ग्राम+पो०-तुपकाडीह, थाना-जरीडीह, जिला-बोकारो | पत्थर | अंचल+थाना-जरीडीह, मौजा-खुटरी, खाता नं०-20 प्लॉट संख्या- 1019(अंष) रकवा-2.50 एकड़ | 26/06/2016 से 25/06/2021 |
| 32 | सर्वश्री माँ काली स्टोन क्रबर, प्रो० श्री संतोष सिंह, पिता स्व० हरेराम सिंह, ग्राम-गोराबाली, पो०+थाना -बालीडीह, जिला-बोकारो। | पत्थर | अंचल-चास, थाना-बालीडीह, मौजा-कनारी, खाता नं०-283, 284, प्लॉट संख्या-3106(अंष), 3107, 3108(अंष), रकवा-1.84 एकड़ | दिनांक 31/03/2022 तक अवधि विस्तारित |
| 33 | सर्वश्री एन० आर० कंसद्रखन प्रो० लि०, एम०डी० श्री दया शंकर राय, पिता श्री के० डी० राय, एम/०5, सिटी सेक्टर, सेक्टर-4, बोकारो स्टील सिटी। | पत्थर | अंचल-चास, थाना-पिण्ड्रजोरा, मौजा-अमडीहा, खाता नं०-189, प्लॉट संख्या-169, 171 से 176, 185, रकवा-4.00 एकड़ | दिनांक 31/03/2022 तक अवधि विस्तारित |
| 34 | सर्वश्री पवनसुत क्रबर खदान, प्रो० श्री अविनाश कुमार, पिता श्री बिन्दा प्रसाद सिंह, एच०ई०स्कूल रोड, भिस्तीपाड़ा, हीरापुर, जिला-धनबाद। | पत्थर | अंचल-चास, थाना-चास(मु०), मौजा-पुपुनकी घाट बेड़ा, खाता नं०-221, 211, 119 प्लॉट नं०-515, 516, 517, 40, रकवा-3.00 एकड़ | 14/09/09 से 13/09/2019 |



DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND



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| 35 | मेसर्स प्रकाश स्टोन क्वारिरी, प्रो० श्री मिथिलेश कुमार, पिता स्व० सिन्धु महतो, ग्राम+पो०-गांगजोरी, थाना-जरीडीह, जिला-बोकारो। | पत्थर | अंचल+थाना-जरीडीह, मौजा-चिलगाड़ा, खाता नं०-41, प्लॉट संख्या-103, 104 के रकवा- 5.00 एकड़ | 03/08/15 से 02/08/2020 |
| 36 | मेसर्स सथाल इन्टरप्राइजेज, प्रो० श्री दिलीप कुमार यादव, पिता स्व० गुरु प्रसाद यादव, पता-सेक्टर-4/F, क्वार्टर संख्या-79, बोकारो स्टील सिटी, जिला-बोकारो | पत्थर | मौजा - चैनपुर, थाना-बालीडीह, खाता संख्या-04 एवं 76, प्लॉट संख्या-163 एवं 147(अंश) रकवा-5.55 एकड़ | 02/09/2015 से 01/09/2018 |
| 37 | मेसर्स शिव इन्टरप्राइजेज, प्रो० श्री गोपालजी पाण्डेय, पिता स्व० गौरी शंकर पाण्डेय, ग्राम-टॉडबालीडीह, पो०-बालीडीह, थाना-जरीडीह, जिला-बोकारो | पत्थर | अंचल+थाना-पेटरवार, मौजा-नावाडीह, खाता नं०-08, प्लॉट संख्या-504, रकवा-2.82 एकड़ | 31/03/2022 तक अवधि विस्तारित |
| 38 | (1) श्री बाबू राम माँझी, पिता स्व० बिरबल माँझी, ग्राम-जमुनियाटाँड़, पो०-रोहर, थाना-पेटरवार, जिला-बोकारो। (2) श्री सहदेव साव, पिता स्व० लमटू साव, ग्राम+पो०-दौतू, थाना-कसमार, जिला-बोकारो। | पत्थर | अंचल+थाना-पेटरवार, मौजा-रोहर, खाता नं०-39, प्लॉट संख्या-40, रकवा-2.30 एकड़ | 23/12/2015 से 22/12/2020 |
| 39 | सर्वश्री कप्सा स्टोन माईन्स, प्रो० श्री संजय कुमार, पिता श्री महानन्द प्रसाद, ग्राम+पो०-बड़कीपुन्नु, थाना-महुआटाँड़, जिला-बोकारो। | पत्थर | मौजा-गांगपुर, खाता नं०-35, प्लॉट नं०-335(अंश), 337(अंश), रकवा-0.95 एकड़ | 02/07/08 से 01/07/2018 |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

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| 40 | श्री आदेश बुधिया, पिता श्री ओमप्रकाश बुधिया, ग्राम+पो0-गोला, जिला-रामगढ़। | क्वार्टजाईट | मौजा-मेरुदारू, खाता नं0-01, प्लॉट नं0-645, रकवा-2.15 एकड़ | 17/01/02 से 16/01/2012 |
| 41 | श्री आदित्य राय, पिता श्री जगदेव राय, ग्राम+पो0-भोजुडीह, थाना-चन्दनकियारी, जिला-बोकारो। | पत्थर | मौजा-पलकरी, खाता नं0-7, 85, प्लॉट संख्या-2573, 2576, 2577, 2578, 2579, रकवा-1.73 एकड़ | 02/07/10 से 01/07/2020 |
| 42 | श्री बानेश्वर सिंह, पिता स्व0 डोमन सिंह, ग्राम-खुंटरी, पो0-तुपकाडीह, थाना-जरीडीह, जिला-बोकारो। | पत्थर | मौजा-खुंटरी, खाता नं0-102, प्लॉट नं0-2156(अंश), रकवा-1.00 एकड़ | 20/11/02 से 19/11/2012 |
| 43 | श्री बसन्त सोरेन, पिता श्री शिवु सोरेन, ग्राम-नेबरा, पो0-बरलंगा, थाना-गोला, जिला-रामगढ़। | पत्थर | अंचल-चास, थाना-पिण्डाजोरा, मौजा-भवानीडीह, खाता नं0-19, प्लॉट नं0-11, रकवा-1.78 एकड़ | 23/10/08 से 22/10/2018 |
| 44 | श्री भगवान सिंह, पिता स्व0 मेघु सिंह, मो0-बेरमो सीम, पो0+थाना-बेरमो, जिला-बोकारो | पत्थर | अंचल+थाना-जरीडीह, मौजा-खुंटरी, खाता नं0-67, प्लॉट संख्या-2785(अंश), रकवा-2.45 एकड़ | 31/03/2022 तक अवाधि विस्तारित |
| 45 | श्री भगवान सिंह, पिता स्व0 मेघु सिंह, ग्राम-बुटनाडीह, पो0-पिछरी, थाना-पटरवार, जिला-बोकारो। | पत्थर | अंचल+थाना-पटरवार, मौजा-पिछरी, खाता नं0-107,237 प्लॉट नं0-2910(अंश),3072, 3086(अंश) रकवा-2.00 एकड़ | 31/03/2022 तक अवाधि विस्तारित |



**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND**



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| 46 | श्री चण्डी गोप, पिता श्री दान्दु गोप, श्री बलराम मोहली, पिता श्री गंगाधर मोहली, ग्राम-दिवानगंज, टोला-बुधुडीह, पो0-कुरा, थाना-पिण्डाजोरा, बोकारो। | पत्थर | अचल-वास, थाना-पिण्डाजोरा, मौजा-दिवानगंज, खाता नं0-53, प्लॉट नं0-512(अंश), रकवा- 1.20 एकड़ | 28/08/09 से 27/08/2019 |
| 47 | पाटं (1) श्री दयानन्द मिश्रा, पिता श्री प्रदुमन मिश्रा, (2) श्री विमल मिश्रा, पिता श्री मुरली मिश्रा, दोनों ग्राम+पो0-तांतरी, थाना- जरीडीह, जिला-बोकारो। | पत्थर | मौजा-तांतरी, खाता नं0-147, प्लॉट नं0-03(अंश), रकवा- 0.83 एकड़ | 09/03/08 से 08/03/2018 |
| 48 | श्री फटीक शर्मा, पिता स्व0 कण्ठी शर्मा, ग्राम-मोदीडीह, पो0-चन्द्रा, थाना-चन्दनकियारी, बोकारो। | पत्थर | मौजा-छाताटाड़, खाता नं0-137, प्लॉट नं0-1256(अंश), रकवा-1.50 एकड़ | 29/08/09 से 28/08/2019 |
| 49 | श्री जगदीश महतो, पिता स्व0 मोहन महतो ग्राम+पो0-हिसिम, थाना-कसमार, बोकारो | पत्थर | मौजा-हिसिम, खाता नं0-78, प्लॉट नं0-122(अंश), रकवा- 0.75 एकड़ | 10/01/04 से 09/01/2014 |
| 50 | श्री कामेश्वर महतो, पिता श्री पलटन महतो, ग्राम-सियालजोरी, पो0-योगीडीह, थाना-चन्दनकियारी, जिला-बोकारो। | पत्थर | मौजा-गोपालपुर, खाता नं0-03, प्लॉट नं0-230, रकवा- 1.22 एकड़ | 29/01/2010 से 28/01/2020 |
| 51 | श्री किशोर कुमार, पिता श्री रीतलाल महतो ग्राम-कंजकिरो, पो0-बी0टी0पी0एस0, थाना-नावाडीह, जिला-बोकारो | पत्थर | मौजा-कौंसी, खाता नं0-01, प्लॉट नं0-34(अंश), रकवा- 1.50 एकड़ | 30/10/08 से 29/10/2018 |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

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| 52 | लक्ष्मीनारायण करमाली, पिता श्री किषुनराम करमाली, ग्राम-सोन्हर, पो0-दांतू, थाना-कसमार, जिला-बोकारो। | वर्टाईट | मौजा-भायापुर, खाता नं0-30, प्लॉट नं0-1200(अंश), रकवा- 0.82 एकड़ | 08 / 10 / 04 से 07 / 10 / 2013 |
| 53 | श्री मलय चन्द्र महथा, पिता श्री सतीष चन्द्र महथा, ग्राम-लुटुटाइ, पो0-गलगलटाइ, थाना-चन्दनकियारी, जिला-बोकारो। | पत्थर | मौजा- लुटुटाइ, खाता नं0-102, प्लॉट नं0- 400(अंश), रकबा 0.50 एकड़ | 13 / 01 / 2009 से 12 / 01 / 2019 |
| 54 | श्री नारायण साव, पिता श्री राजकिशोर साव, ग्राम+पो0+थाना-चन्दनकियारी, बोकारो। | पत्थर | अंचल+थाना-चन्दनकियारी, मौजा-बाबुजोड़, खाता नं0-09, प्लॉट संख्या-158 (अंश), रकवा- 2.00 एकड़ | 30 / 05 / 2011 से 29 / 05 / 2021 |
| 55 | श्री निपेन मिश्रा, पिता स्व0 दामोदर मिश्रा ग्राम+पो0-जैनामोड़ (बोकारो) | पत्थर | अंचल+थाना-जरीडीह, मौजा- खुटरी, खाता नं0-108, प्लॉट नं0-2156(अंश), रकवा-1.00 एकड़ | 03 / 04 / 10 से 02 / 04 / 2020 |
| 56 | श्री निर्मल कुमार सिंह, पिता स्व0 धनन्जय सिंह, ग्राम+पो0-जैनामोड़, थाना-जरीडीह, जिला-बोकारो | पत्थर | अंचल+थाना-जरीडीह, मौजा-तातरी, खाता नं0-109, प्लॉट नं0-789, रकवा-0.90 एकड़ | 31 / 03 / 2022 तक अवधि विस्तारित |
| 57 | श्री ओम प्रकाश पाण्डेय, पिता स्व0 सत्यदेव पाण्डेय, ग्राम-बोगला, पो0-गलगलटाइ, थाना-चन्दनकियारी, जि0-बोकारो। | पत्थर | अंचल+थाना-चन्दनकियारी, मौजा-बोगला, खाता नं0-155, प्लॉट संख्या-3682(अंश), रकवा-2. 00 एकड़. | 31 / 03 / 2022 तक अवधि विस्तारित |
| 58 | श्री प्रेमचन्द्र मांझी, पिता श्री राम कुमार मांझी, ग्राम-रांगामाटी, टी0एस0सी0 बस्ती, पो0+थाना-चन्द्रपुरा, जिला-बोकारो। | पत्थर | अंचल+थाना-चन्द्रपुरा, मौजा-रांगामाटी, खाता नं0-115, प्लॉट संख्या- 2595(अंश), रकवा-1.00 एकड़ | 08 / 09 / 10 से 07 / 09 / 2020 |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

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| 59 | श्री राधानाथ सोरेन, पिता श्री दरबारी मांझी, ग्राम+पो0-उत्तासारा, थाना-पेटरवार, जिला-बोकारो। | पत्थर | अंचल+थाना-पेटरवार, मौजा-भायापुर, खाता नं0-32, प्लॉट नं0-472(अंश), रकवा- 0.83 एकड़ | 02/10/08 से 01/10/2018 |
| 60 | श्री राधानाथ सोरेन, पिता श्री दरबारी मांझी, ग्राम+पो0-उत्तासारा, थाना-पेटरवार, जिला-बोकारो। | पत्थर | अंचल+थाना-पेटरवार, मौजा-फुटकाडीह, थाना-पेटरवार, खाता नं0-33, प्लॉट नं0-199, रकवा-0.34 एकड़ | 20/07/15 से 19/07/2020 |
| 61 | श्री राजदेव मिश्रा पिता स्व0 उमा मिश्रा ग्राम+पो0 - तांतरी, थाना-जरीडीह, जिला-बोकारो। | पत्थर | मौजा-तांतरी (निर्मलडीह), खाता नं0-129, प्लॉट नं0-1334 रकवा-0.89 एकड़ | 03/05/03 से 02/05/2013 |
| 62 | श्री राजीव लोचन नायक पिता श्री भूषण चन्द्र गोराई ग्राम+पो0 चन्द्रा, थाना - चन्दनकियारी जिला - बोकारो | पत्थर | मौजा-चन्डीपुर, खाता नं0-36,18, प्लॉट नं0- 263(अंश),264(अंश), 265,275से277,284 (अंश) रकवा-1.20 एकड़ | 06/07/2005 से 05/07/2015 |
| 63 | श्री रमेश कुमार, पिता श्री गुलजार गोराई, ग्राम+पो0-चौदो, थाना-पेटरवार, जिला-बोकारो। | पत्थर | मौजा-कल्याणपुर, खाता नं0-08, प्लॉट नं0-61, 62, रकवा-0.65 एकड़ | 03/06/10 से 02/06/2020 |
| 64 | श्री रामेश्वर महतो, पिता श्री डेगलाल महतो, ग्राम+पो0-बिरनी, टोला-बरहमसिया, थाना-नावाडीह, जिला-बोकारो। | पत्थर | अंचल+थाना- नावाडीह, मौजा- दंहियारी, खाता नं0-236, प्लॉट नं0-03(अंश), रकवा-2.00 एकड़ | 05/10/2009 से 04/10/2019 |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

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| 65 | (1) श्री रामु मौड़ी, पिता स्व० पूसा मौड़ी। (2) श्री राम कुमार मुमु, पिता स्व० खलु मौड़ी, दोनों ग्राम-बुढीडीह, पो०-दुग्धा, जिला-बोकारो। | पत्थर | मौजा-ठाकुरटॉड, टोला निर्मलडीह, खाता नं०-18, प्लॉट नं०-93, रकवा-1.02 एकड़ | 25 / 09 / 07 से 24 / 09 / 2017 |
| 66 | श्री रितेश कुमार सिन्हा, पिता श्री भोला प्रसाद, ग्राम+पो०+थाना-पेटरवार, जिला-बोकारो। | पत्थर | मौजा-एटके, खाता नं०-06, प्लॉट नं०-142, रकवा-0.50 एकड़ | 11 / 05 / 08 से 10 / 05 / 2018 |
| 67 | श्री सतवीर सिंह, पिता श्री दिनेश सिंह, ग्राम+पो०-खुंटरी, थाना-जरीडीह, बोकारो। | पत्थर | मौजा-निर्मलडीह, खाता नं०-106, प्लॉट नं०-1351, रकवा-0.90 एकड़ | 09 / 02 / 08 से 08 / 02 / 2018 |
| 68 | श्री शीतला प्रसाद सिंह, पिता स्व० केशव प्रसाद सिंह, गुरुगोविन्द सिंह नगर, जोधाडीह मोड़, पो०+थाना -चास, जिला-बोकारो। | पत्थर | मौजा-बसन्तपुर, थाना-पिण्डाजोरा, खाता नं०-08, प्लॉट नं०-53, 54, रकवा-0.91 एकड़ | 24 / 01 / 2009 से 23 / 01 / 2019 |
| 69 | श्री सुखदेव प्रजापति पिता श्री सोनाराम प्रजापति, ग्राम+पो०-कंजकिरो, थाना-नावाडीह, जिला-बोकारो। | पत्थर | मौजा-कौसी, खाता नं०-02, प्लॉट नं०-34(अंश), रकवा- 1.00 एकड़ | 16 / 12 / 96 से 15 / 12 / 06 |
| 70 | श्री सुमन्त कुमार शर्मा, पिता स्व० हरिपद शर्मा, ग्राम-नावाडीह, पो०-चिकसिया, थाना-चास(मु०) बोकारो | पत्थर | मौजा-नावाडीह, खाता नं०-02, प्लॉट नं०-324(अंश), रकवा- 1.60 एकड़ | 17 / 07 / 02 से 16 / 07 / 2012 |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| Sl. No. | Name of the Applicant | Category | Block Name | Area (Acres) | Start Date | End Date |
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| 71 | श्री सुरेश कुमार सिंह, पिता श्री रामाशकर सिंह, ग्राम-मानगो, पो0-तुपकाडीह, थाना-बालीडीह, जिला-बोकारो। | पत्थर | मौजा-मानगो खाता नं0-121, 205, प्लॉट नं0-19(अंश), रकवा-1.50 एकड़ | 04/08/96 से 03/08/06 | | |
| 72 | श्री टेकलाल साव, पिता स्व0 तिलक साव, ग्राम-गांगपुर, पो0-बड़कीपुन्नु, थाना-महुआटांड, जिला-बोकारो। | पत्थर | अंचल-गोमिया, थाना-महुआटांड, मौजा-चोरगावा के खाता नं0-28, प्लॉट संख्या-511 के रकवा-1.20 एकड़ | दिनांक 31/03/2020 तक अवधि विस्तारित | | |
| 73 | श्री तिजुवा मांझी, पिता श्री चाना मांझी, ग्राम-अड़ारी, पो0+थाना-पेटरवार | पत्थर | मौजा-अड़ारी, खाता नं0-10, प्लॉट नं0-303(अंश), रकवा-0.60 एकड़ | 09/02/08 से 08/02/2018 | | |
| 74 | श्री विजय सिंह, पिता स्व0 राम कंवल सिंह, मौ0-शिवपूरी कॉलोनी, जोधाडीह मोड़, चास, जिला-बोकारो। | पत्थर | मौजा-तेलमटिया, खाता संख्या-24, प्लॉट संख्या-49(अंश), 51, 52(अंश), 53, 54, 55(अंश), 59(अंश), 60 रकवा-2.41 एकड़ | 21/10/09 से 20/10/2019 | | |
| 75 | श्री विवेक कुमार अग्रवाल, पिता श्री अशोक कुमार अग्रवाल, आर0 के0 चटर्जी रोड, बाई पास रोड, चास, जिला-बोकारो। | पत्थर | मौजा-भाराजोरी, खाता नं0-207, प्लॉट संख्या-1905(अंश), रकवा-2. 50 एकड़ | 28/05/10 से 27/05/2020 | | |
| 76 | मेसर्स पवन ओर्स एवं ब्रिक्स, प्रौ0 श्री बिकास चन्द्र अग्रवाल, पिता श्री कैलाश चन्द्र हेमका, सदर बाजार चास, पो0+थाना-चास, जिला-बोकारो। | पत्थर | अंचल-चास, थाना-चास(मु0), मौजा-पुनकी घाट बेड़ा, खाता नं0-7, 221, प्लॉट संख्या-1161(अंश), 1172(अंश), 1173, रकवा- 1.71 एकड़ | 23/12/2015 से 22/12/2020 | | |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR BOKARO DISTRICT OF JHARKHAND

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| 77 | श्री राजेश करमाली, पिता श्री उपेन्द्र करमाली, ग्राम-सोन्हर, पो0-दौतु, थाना-कसमार, बोकारो। | पत्थर | मौजा-मायापुर, खाता नं0-57, प्लॉट नं0-28(अंश), रकवा- 1.00 एकड़ | 09/02/02 से 08/02/2012 |
| 78 | मेसर्स अरिहन्त इन्टरप्राइजेज, प्रो0 श्री अजय कुमार जैन, पिता स्व0 ज्ञान चन्द जैन, ग्राम+पो0+थाना-पेटरवार, जिला-बोकारो। | क्वार्टजाईट | अंचल+थाना-पेटरवार मौजा-मायापुर, खाता संख्या-28, प्लॉट नं0-1137(अंश), रकवा-2.45 एकड़, | 11/01/2017 से 10/01/2022 |
| 79 | श्री अजय कुमार नायक, पिता श्री बिनोद बिहारी नायक, ग्राम+पो0-चान्दो, श्री अजय कुमार जैन, पिता श्री ज्ञानचन्द जैन, ग्राम+पो0+थाना-पेटरवार, बोकारो। | क्वार्टजाईट | मौजा-झुंझको, खाता नं0-57, प्लॉट नं0-1111, 1112(अंश), 1113(अंश), रकवा- 0.78 एकड़ | 09/02/08 से 08/02/2018 |
| 80 | श्री जीत राम माँझी, पिता श्री टीपु माँझी, ग्राम+पो0-अरजुवा, टोला-लावागढ़ा, थाना-पेटरवार, जिला-बोकारो। | क्वार्टजाईट | मौजा-अरजुवा, टोला-लावागढ़ा, खाता नं0-46, प्लॉट संख्या-1317, 1319, 1320, 1321, 1322 एवं 1325, रकवा-2.48 एकड़ | 03/08/15 से 02/08/2020 |
| 81 | श्री जितेन्द्र कुमार जैन, पिता स्व0 ज्ञानचन्द जैन, ग्राम+पो0+थाना-पेटरवार, जिला-बोकारो। | क्वार्टजाईट | मौजा-फुटकाडीह, खाता संख्या-19, प्लॉट संख्या-434, रकवा-0.63 एकड़ | 04/09/15 से 03/09/2020 |
| 82 | मेसर्स एन0 आर0 इन्टरप्राइजेज, प्रो0 श्री राजेश यादव, पिता श्री सुदामा यादव, पता-रोक्टर-2 सी, स्ट्रीट-04, क्वार्टर नं0-2-124, बोकारो स्टील सिटी, जिला-बोकारो। | क्वार्टजाईट | अंचल-चास, पिण्डजोरा थानान्तर्गत, मौजा-पुण्डरू, खाता नं0-202, प्लॉट संख्या-5932(अंश), 5933(अंश), रकवा- 2.85 एकड़ | 08/01/2018 से 07/01/2023 |



**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND**



| | | | | |
|----|---|-------------|--|-----------------------------|
| 83 | मेसर्स रामेश्वरग इंटरप्राइजेज, प्रो0 श्री रामेश्वर महतो, पिता श्री डेगलाल महतो, ग्राम+पो0-बिरनी, टोला-बरमासिया, थाना-नावाडीह, जिला-बोकारो | पत्थर | अंचल+थाना-नावाडीह, मौजा-धमनी के खाता संख्या-18, प्लॉट संख्या-64, रकवा-4.16 एकड़ | 26/11/2017 से 25/11/2022 |
| 84 | मेसर्स जय माता दी इंटरप्राइजेज, पार्ट0 (1) श्री नाम किशोर मॉड्री, पिता श्री लखी वरण मॉड्री, ग्राम-मायापुर, पो0-रोहर, थाना-पेटरवार, (2) श्री बिनोद नायक, पिता स्व0 धनेश्वर नायक, ग्राम+पो0-चलकरी बस्ती, थाना-पेटरवार, जिला-बोकारो | क्वार्टजाइट | अंचल+थाना-पेटरवार, मौजा-मायापुर के खाता संख्या-36, 57, प्लॉट संख्या-649, 654, 655, रकवा-3.04 एकड़ | 08/12/2017 से 07/12/2022 |
| 85 | मेसर्स जुगनु कन्स्ट्रक्शन कं0, प्राधिकृत हरताक्षरकर्ता श्री ललन कुमार सिंह, पिता स्व0 रामधूलोक सिंह, मो0-न्यू रोड फुसरो, हनुमान मंदिर के सामने, पो0-फुसरो बाजार, जिला-बोकारो | पत्थर | अंचल+थाना-जरीडीह, मौजा-तांतरी, खाता नं0-147, 148, प्लॉट संख्या-6(अंश), 8(अंश), 9(अंश), 10(अंश) एवं 20(अंश) के रकवा-7.00 एकड़ | 17/09/2017 से 16/09/2022 |
| 86 | मेसर्स श्री विष्वनाथ स्टोन माईन्स, एण्ड क्रशर, प्रो0 श्री मनोज कुमार, पिता स्व0 विष्वनाथ मॉड्री, सेक्टर-2बी, क्वार्टर नं0-2-257, बोकारो स्टील सिटी, जिला-बोकारो | पत्थर | चास(मु0) थानान्तर्गत, मौजा-कुम्हरी, खाता नं0-110, प्लॉट संख्या-845(अंश), रकवा-5.42 एकड़ | 12/10/2017 से 11/10/2022 |
| 87 | मेसर्स पुष्परेखा स्टोन, पार्ट0 (1) श्री आदित्य नाथ राय, पिता श्री जगदेव राय, ग्राम+पो0-भोजुडीह, थाना-चन्दनकियारी, जिला-बोकारो (2) श्री विवेक रूंगटा, पिता श्री सुरेन्द्र कुमार रूंगटा, मो0-कोला कुषमा, लालबंगला, पो0-के0जी0 आश्रम, थाना-गोविन्दपुर, जिला-धनबाद | पत्थर | अंचल+थाना-चन्दनकियारी मौजा-सिमुलिया, खाता नं0-08, 76, प्लॉट संख्या-761, 869, 760, 759(अंश) के रकवा-5.00 एकड़ | 26/11/2017 से 25/11/2022 |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| | | | | |
|----|---|-------|---|-----------------------------|
| 88 | मेसर्स अंजनी कुमार पाण्डेय, प्रो श्री सतोष कुमार पाण्डेय, पिता स्व० हेमन्त कुमार पाण्डेय, ग्राम+पो०-तरगा, थाना-चन्द्रपुरा, जिला-बोकारो। | पत्थर | अर्बल+थाना-चन्द्रपुरा मौजा-तरगा, खाता न०-101, प्लॉट संख्या-1220(अंश), कुल रकवा-1.45 एकड़ | 26/08/2017 से 25/08/2022 |
|----|---|-------|---|-----------------------------|



3. GENERAL PROFILE OF THE DISTRICT

3.1 General Information:

The district Bokaro was created on 1st April, 1991 by taking out Chas and Chandankiyari C.D. Blocks of Dhanbad district and the entire Bermo Sub-division of Giridih district and then merging them to form a new district. Bokaro district is bounded on the east by Dhanbad district and some portion of West Bengal State, on the west by Ramgarh district, on the south by Purulia district of West Bengal and on the north by parts of Giridih, Hazaribag and Dhanbad districts. The District extends from Latitude 23°24'27" N to 23° 57'24" N and Longitude 85° 34'30" E to 86° 29'10" E. It is accessible through National Highway NH-143 & NH-18. Bokaro town is located about 100 km from Ranchi. The district is located at an elevation range of 200-546 m. from mean sea level. It is covered by Survey of India Toposheet Nos. - 73 E/9, 73 E/10, 73 E/13, 73 E/14, 73 I/1, 73 I/2, 73 I/5 and 73 I/6.

It has two sub divisions i.e. Chas and Bermo sub-division. Further, the sub-division is divided into nine blocks namely – Chas, Bermo, Gomia, Peterwar, Kasmar, Nawadi, Jaringdih, Chandankiyari and Chandrapura.

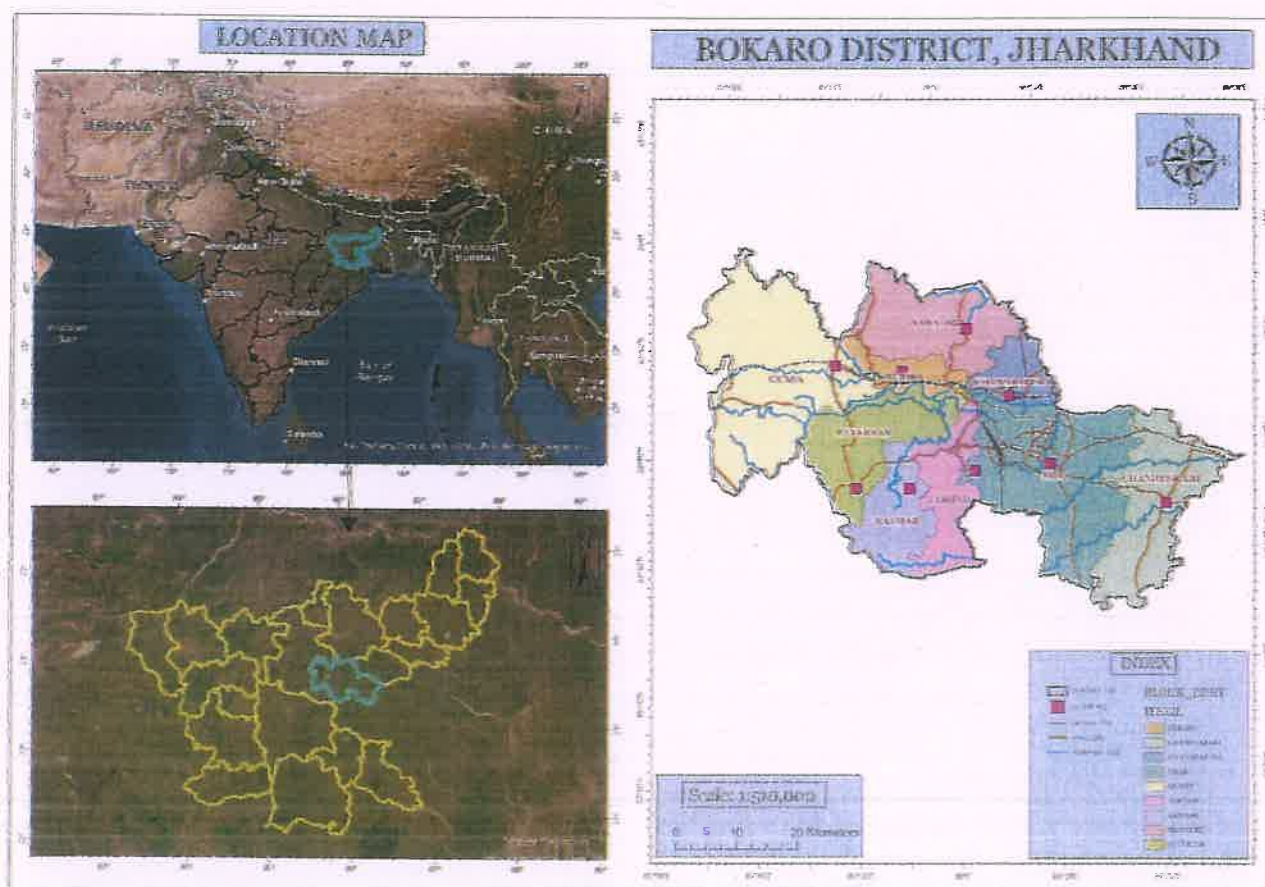


Fig. 3.1: Representative location of Bokaro District



Table 3.1: Sub-division of Block area and population wise details of Bokaro District

| Sl No. | Subdivision | Area (Km ²) | Rural Population | Urban Population | Total Population | Male (2011) | Female (2011) |
|--------|--------------------------------------|-------------------------|------------------|------------------|------------------|-------------|---------------|
| 1. | Chas | 573.61 | 249083 | 564319 | 813402 | 427453 | 385949 |
| 2. | Bermo | 165.71 | 4222 | 185555 | 189777 | 99086 | 90691 |
| 3. | Gomia | 670.55 | 130898 | 100287 | 231185 | 118918 | 112267 |
| 4. | Peterwar | 305.71 | 127617 | 4533 | 132150 | 68127 | 64023 |
| 5. | Kasmar | 195.28 | 89974 | 0 | 89974 | 45947 | 44027 |
| 6. | Nawadih | 371.77 | 133848 | 4606 | 138454 | 70344 | 68110 |
| 7. | Jaridih | 207.53 | 75671 | 29317 | 104988 | 54445 | 50543 |
| 8. | Chandankiyari | 370.67 | 218597 | 11641 | 230238 | 119606 | 110632 |
| 9. | Chandrapura (Newly created block) | NA | 48776 | 83386 | 132162 | 68881 | 63281 |

(Source - Census-2011)

| Block | Panchayat | Nos. of Villages |
|--------------------------------------|-----------|------------------|
| Chas | 54 | 128 |
| Bermo | 19 | 16 |
| Gomia | 28 | 127 |
| Peterwar | 23 | 65 |
| Kasmar | 15 | 68 |
| Nawadib | 24 | 70 |
| Jaridih | 17 | 42 |
| Chandankiyari | 38 | 130 |
| Chandrapura (Newly created block) | 23 | 30 |

| DISTRICT PROFILE | |
|------------------------------------|---------|
| Name | Details |
| District Formation | 1991 |
| Nos. of Parliamentary Constituency | 2 |
| Nos. of Assembly Constituency | 5 |
| Nos. of Sub Division | 2 |
| Nos. of Block | 9 |
| Nos. of Gram Panchayat | 249 |



| DISTRICT PROFILE | |
|--|-------------------------|
| Name | Details |
| Nos. of Revenue Village | 635 |
| Municipal Corporation | 1 |
| Municipal Council | 1 |
| Total Geographical area (km ²) | 2883 |
| Total Population | 20,62,330 |
| Urban Population | 10,78,686 |
| Rural Population | 9,83,644 |
| Schedule Castes | 236,472 |
| Schedule Tribes | 218,600 |
| Backward Classes | 715 per km ² |
| Density of Population | 72.01 |
| % of Literacy | 72.01% |
| Male | 1,072,802 |
| Female | 989,523 |
| Sex Ratio | 922 |

(Source: bokaro.nic.in)



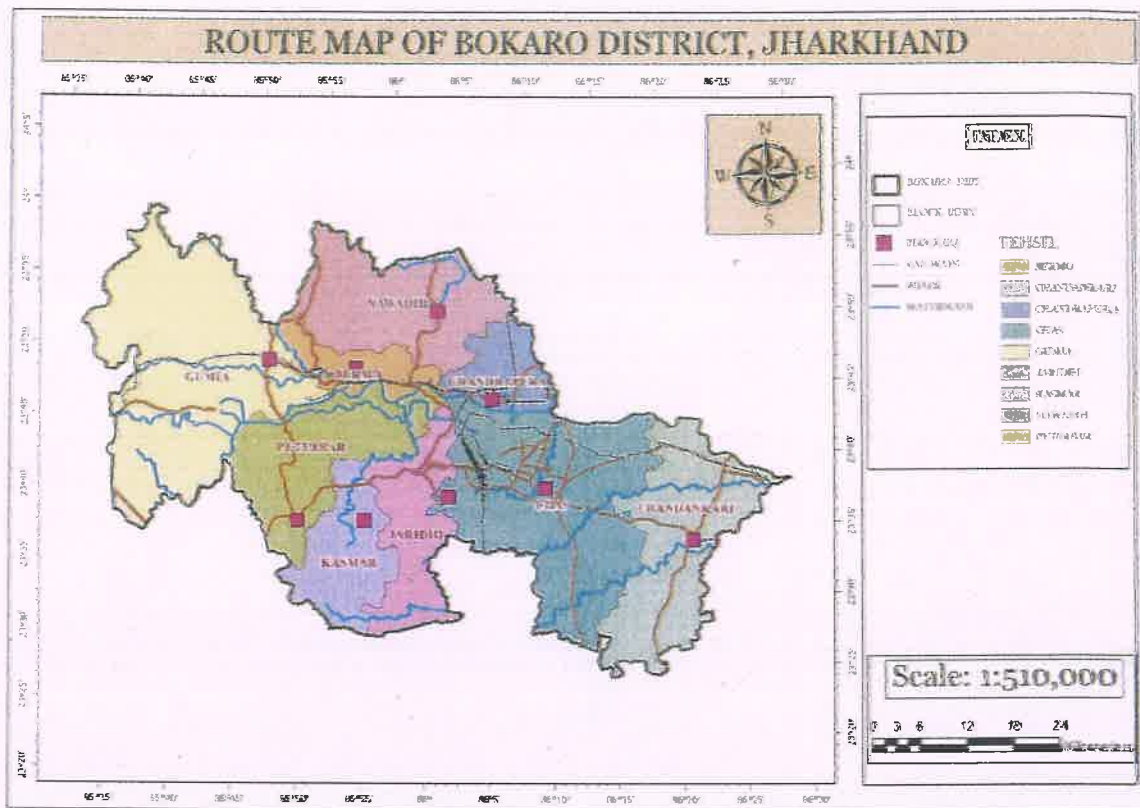


Figure 3.2: Route Map of Bokaro District

(Source: National Informatics Centre)

3.2 Topography & Terrain:

Topographically it is a lower plateau having relatively little undulations. The district consists of two district physical units. Northern area is hilly with forest while southern area provides appearance of plain. The average altitude of the land is 210m above mean sea level. The general slope is from North-West to South-East. Geologically, the area is comprised with Archean granites and gneisses. In southern part Gondwana rock formation occurs in patches. The important rivers flowing in the district are Damodar, Bokaro, Gobai, Jamuniya, Kunar & Khusa River.

3.3 Demography:

In 2011, Bokaro had population of 2,062,330 of which male and female were 1,072,807 and 989,523 respectively. In 2001 Census, Bokaro had a population of 1,777,662 of which males were 938,436 and remaining 839,226 were females. Bokaro District population constituted 6.25 percent of total Maharashtra population. In 2001 census, this figure for Bokaro district was at 6.60 percent of Maharashtra population. There was change of 16.01 percent in the population compared to population as per 2001. In the previous census of India 2001, Bokaro district recorded increase of 22.22 percent to its population compared to 1991.

| Description | 2011 | 2001 |
|-------------|-------------|-------------|
| Population | 20.62 Lakhs | 17.78 Lakhs |



| Description | 2011 | 2001 |
|------------------------------------|-----------|-----------|
| Actual Population | 2,062,330 | 1,777,662 |
| Male | 1,072,807 | 938,436 |
| Female | 989,523 | 839,226 |
| Population Growth | 16.01% | 22.22% |
| Area Km ² | 2,883 | 2,883 |
| Density/km ² | 715 | 617 |
| Proportion to Jharkhand Population | 6.25% | 6.60% |
| Sex Ratio (Per 1000) | 922 | 894 |
| Child Sex Ratio (0-6 Age) | 923 | 950 |
| Average Literacy | 72.01 | 62.10 |
| Male Literacy | 82.51 | 76.04 |
| Female Literacy | 60.63 | 46.33 |
| Total Child Population (0-6 Age) | 293,786 | 291,148 |
| Male Population (0-6 Age) | 152,803 | 149,326 |
| Female Population (0-6 Age) | 140,983 | 141,822 |
| Literates | 1,273,520 | 923,150 |
| Male Literates | 759,088 | 600,048 |
| Female Literates | 514,432 | 323,102 |
| Child Proportion (0-6 Age) | 14.25% | 16.38% |
| Boys Proportion (0-6 Age) | 14.24% | 15.91% |
| Girls Proportion (0-6 Age) | 14.25% | 16.90% |

(Source - census2011.co.in)



3.4 Connectivity in Bokaro District:

Bokaro district is situated in the eastern part of the State of Jharkhand. Bokaro district is bounded on the east by Dhanbad district and some portion of West Bengal State, on the west by Ramgarh district, on the south by Purulia district of West Bengal and on the north by parts of Giridih, Hazaribag and Dhanbad districts. Bokaro district is well connected by road, rail and air communication system from other parts of the country.

(i) **Railway Station:** Bokaro Steel City is a railway station. Chandrapura is another important railway station in Bokaro district. Bokaro is well connected by Train/Rail route also. The Bokaro Steel city is connected to Grand cord line at Gomo Railway station. Important Trains Like Shatabdi Express between Bokaro and Howrah, Hatia Patna Express. Alleppy Express and Jharkhand Swarna Jayanti Express between Hatia to Delhi (Bi-weekly) run through this station. For other places trains can be boarded at Dhanbad Railway Station, which is at a distance of only 45 km from Bokaro and grand cord line passing through it.

(ii) **Road:** With regular bus services, travelers can directly reach the city of Bokaro, as various State government operated and private buses help in making the journey comfortable for the tourists. A bus ride can leave a person amazed as the natural beauty of the region is worth exploring. Passenger buses and Non Stop buses run regularly from Ranchi, Dhanbad, Ramgarh, Purlia (WB), Patna (Bihar) etc.

Table 3.5: Distance of Bokaro from some important places

| Name of Place | Distance in Kilometres |
|---------------------|------------------------|
| Ramgarh | 80 km |
| Ranchi(Via Ramgarh) | 130 km |
| Ranchi(via Jhalda) | 165 km |
| Dhanbad | 45 km |
| Giridih | 110 km |
| Jamshedpur | 135 km |
| Patna(Via Ramgarh) | 370 km |
| Peterwar | 35 Km |

Airways : The nearest commercial airport is at Ranchi, named Birsa Munda Airport, at a distance of 120 km. Bokaro Airport is an un-serviced airport with no scheduled commercial flights. However, the Government of India has planned to connect Bokaro to the regional hub of Patna and an international airport in Kolkata through the UDAN regional airport development scheme, opening the airport up could see commercial flights by 2022.



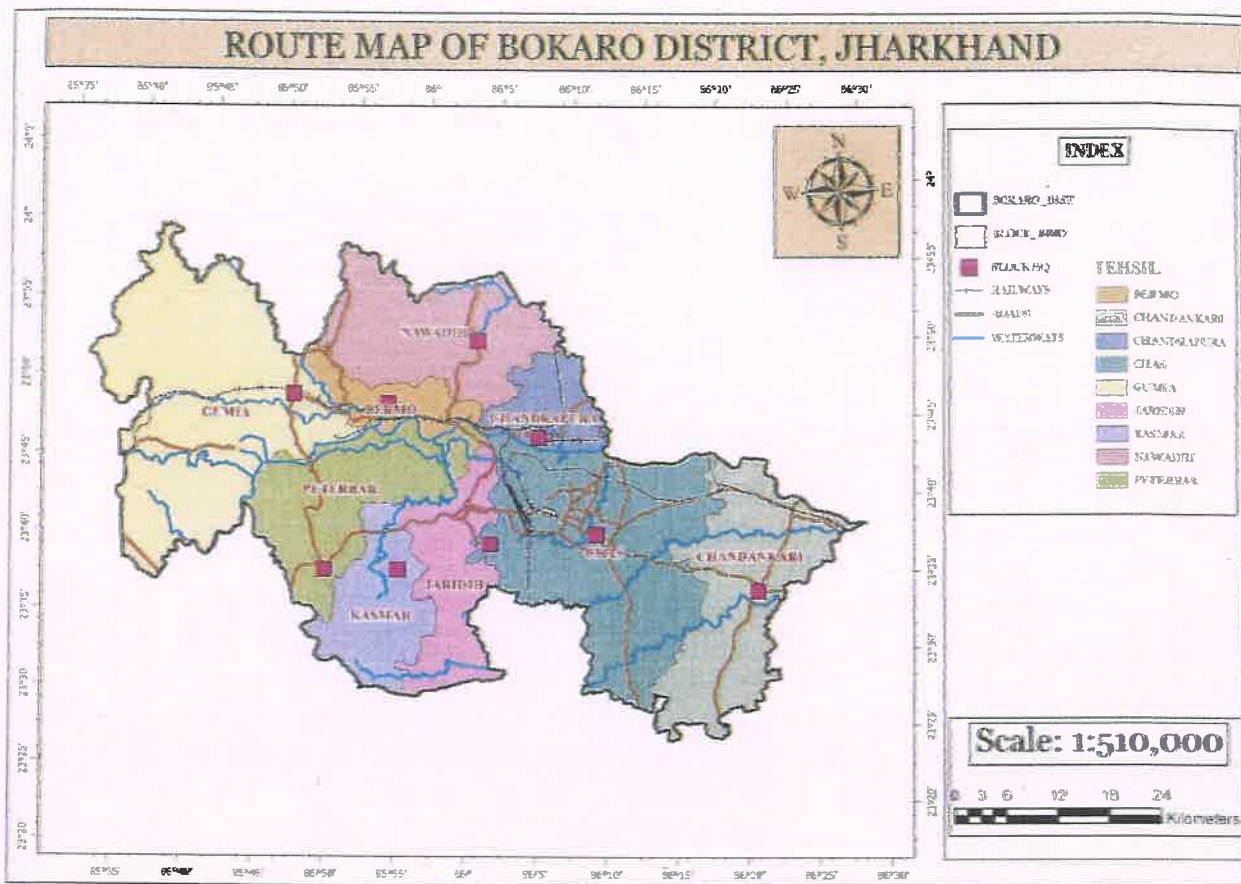


Figure 3.3: Route Map of Bokaro District

3.5 Flora & Fauna:

Flora of the District:

There is no rare or endangered species found in core and buffer zones of the area. The district has different tree species, namely, Sal (*Shorea Robusta*), Khair (*Acacia Catechu*), Asan (*Terminalia Tomentosa*), Karam (*Adina Cordifolia*), Sidha (*Lagerstroemia Parviflora*), Gamhar (*Gmelina Arborea*), Semal (*Bombax Malabaricum*), Medh (*Litsea Semifera*), Bel (*Aegle Marmelos*), Kedar (*Garuga Pinnata*), Galgal (*Cochlospermum Gosypium*), Kend (*Diospyros Tomentosa*), Kusum (*Schleichera Trijuga*), Seessam (*Dalbergia Latifolia*), Siris (*Boswellia Serrata*), Bamboo (*Dendrocalamus Strictus*) etc.

Fauna of the District:

Animals and birds found within the district are of very general type reported in the locality consisting of rabbits, wild pigs, monkeys and jackals. Birds include pigeons, parrots, wild fowls and owls etc. There is no rare and endangered species found in core and buffer zone.

(Source - DSR -Stone-2018)



3.6 General Landforms:

Bokaro uplands (in the western part), Bokaro-Chas uplands (middle part), Damodar-Barakar Basin (eastern part), are the physical divisions. Out of which Bokaro-Chas uplands is the major physical division in the district. The region forms the south-western portion of the district. It extends from the north to the south. River Damodar forms its northern boundary. The region is bounded by the State of West Bengal in the south, Damodar-Barakar Basin in the east and by Giridih district in the west. It comprises the major portion of Chas and small portion of Chandankiyari C.D. Blocks. The entire region has undulating surface. The height varies between 200m to 282m. The general slope of the region is from the west to the east. Damodar is the main river which flows along with its tributaries like Garga and Parga in this tract. Minor rivers which flow in the district are Bokaro, Kunar, Khusa and Uri. The other river of the district is Gobai, which flows through Chandankiyari block area and Konar in Gomia block. Scattered patches of forest are found all over the region. Its geology is related to Chhotanagpur gneiss. Soil is Ustalfs-Aqualfs-Ochrepts. The average annual rainfall is 1,291.2 mm. Paddy, millets and pulses are the main crops of the region. The district is located at an elevation of 200-546 m from mean sea level. The highest peak in Lugu pahar is 1070m. It is situated in the western part of the district. Ravines are found in the western part of the district having rugged topography. Major portion of the district is comprised of Chhotanagpur Gneiss and small patches of Gondwana formations with thick layers of coal.

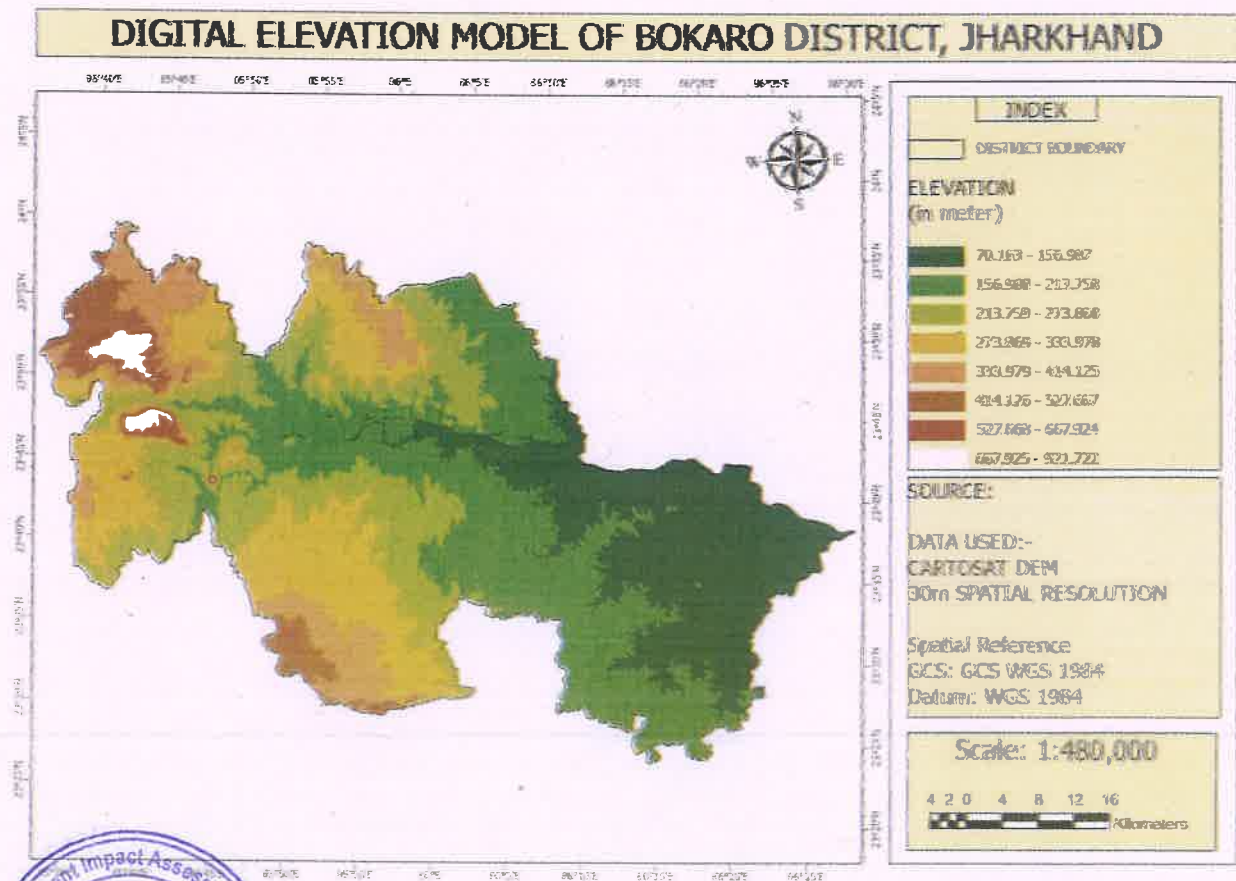


Fig. 3.4: Map Showing Elevation Profile of Bokaro District
(Source: Aster DEM Imagery Data)



3.7 Soil:

The soils of Bokaro district can be broadly grouped into the soil developed in different formation lik Granite or Granite Gneiss of Archean Age, Sand Stone and shales of Gondwana Foundation and Alluvial Plain.

Texturally the soils of Bokaro district have been classified into four classes as: -

a) 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.

b) Sandy Soils: It is found near the stream beds containing 60% sand and are easily drained. These are poor in respect of fertility and requires heavy manuring.

c) Loamy Soils: These consists mostly of detaitus of decomposed rocks and vegetables matter. It is suitable for cultivation. Normally these are found in valleys near the hills.

d) 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.

3.8 Geomorphology:

The Bokaro district is part of Chhotanagpur Plateau. It is highly undulating and hilly all over the district. The regional slope of the district is towards east and controlled by the alignment of the tributaries of Damodar river. The hill ranges trending WNW-ESE. The average elevation of the undulating pediplain ranges from 200-350m above MSL. The highest hill prominent block is Gomia. The northern and western part of the district are having hilly ranges. Chas and Chandankiyari are low upland where cultivation is practiced.

Table 3.6: Geographical Profile of Bokaro District

| Sl. No. | Particulars | Data |
|---------|-----------------------------|---|
| 1 | Latitude | Latitude - 23° 26' N to 23°57' N |
| 2 | Longitude | Longitude - 85° 34' E to 86° 26' E |
| 3 | Area (in Km ²) | 2881 |
| 4 | Height above Mean Sea Level | 688.97 Ft. |
| 5 | Temperature | Winter (Min. 18.1, Max. 25.9) Summer (Min. 28.1, Max. 38.4) |
| 6 | Average Annual Rainfall | 1198 mm |
| 7 | Climate | Summer (May-June) Winter (Dec-Feb) & Rainy (July-Aug) Seasons |
| 8 | Main Tribes | Oraon, Chero, Korwa and Pahariya |
| 9 | Main Minerals | Dolomite, Limestone, China Clay & Granite |
| 10 | Language Spoken | Hindi & Oraon |
| 11 | Nearest Railway Station | Bokaro Railway Station |
| 12 | Nearest Airport | Bokaro Airport |



4. GEOLOGY & MINERAL WEALTH OF THE DISTRICT

4.1 Geology:

Major portion of the district is comprised of Chhotanagpur Granite Gneissic Complex and small patches of Gondwana formations with thick layers of coal. In Bokaro area, the Gondwana sediments rest unconformably on the Precambrian basement rocks comprising of granites with pegmatite veins, amphibolite, epidiorite, mica-schist, quartzite and prophyritic gneisses. To the north of the West Bokaro Coalfield, the Precambrian rocks are separated from the Gondwanas by a boundary fault while to the south and west the Gondwanas generally overlies the Pre Cambrians with a profound unconformity.

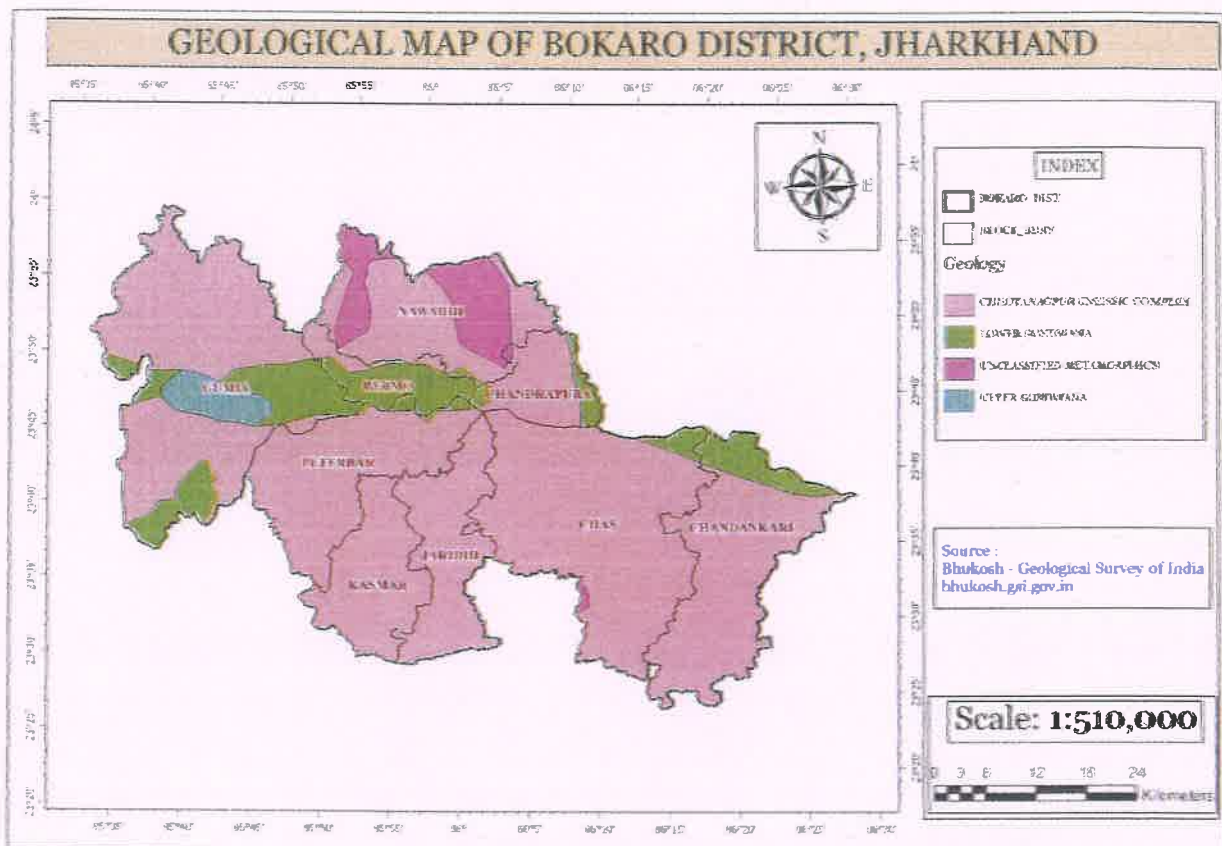
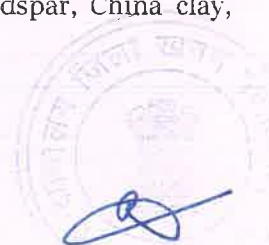


Fig. 4.1: Geological Map of Bokaro District

(Source: JSAC, Deptt. of Mines & Geology, Govt. of Jharkhand)

Mineral Wealth of Bokaro District

Bokaro district is covered by rocks of Gondwana formation in isolated basins within Chhotanagpur Granite Gneissic terrain. Two major coalfields viz. East Bokaro & West Bokaro covers the district. The district is thus endowed with good potential of Coal & Fireclay. Apart from Coal, the district also comprises of good deposits of Quartz, Quartzite, Feldspar, China clay, Limestone and General stone (amphibolite, dolerite etc.)



| Age | Formation | Lithology | Thickness |
|-----------------|---------------------------|--|-----------|
| Recent Jurassic | | Alluvium and Laterite. Basic and ultra-basic dykes and sill | |
| Upper Triassic | Supra Panchet (Mahadevan) | Conglomerate, ferruginous Sandstone and Siltstone. | 600m |
| Lower Triassic | Panchet | Fine grained Sandstone, green Shale and red and chocolate coloured Shale and Clay. | 450m |
| Upper Permian | Raniganj | Fine grained Sandstone, Siltstone, carbonaceous and Grey Shale with thin Coal seams. | 550m |
| Middle Permian | Barren Measures | Carbonaceous Shale, Grey Micaceous Shales with Ironstones. | 300m |
| Lower Permian | Barakar | Conglomerate, Pebbly Sandstones, very coarse grained to fine grained Sandstones, Grey Shales, Fire Clay and Coal seam. | 610m |
| | Karharbari | Conglomerates, very coarse grained Sandstone, carbonaceous at places and thin Coal seams. | 40-60m |
| | Talcher | Diamictite, fine to medium grained greenish and buff coloured Sandstones shales, Rhythmites, Turbidites etc. | 160m |
| Precambrian | | Graintes, Gneisses, Amphibolites, Quatiztes, Pegmatites, etc. | |

Table 4.1: Generalized Stratigraphy of the Bokaro (Raja Rao, 1987)

4.2 Overview of Mineral Resources:

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

The local residents used to lift sand etc. from the river beds to meet out their bonafide requirement. However, after coming into being "The Jharkhand Minor Mineral Concession Rules 2017", the mining is regulated in accordance with the rules. In Bokaro district, number of minerals are extracted which include mainly coal, quartzite, stone and sand. Bokaro is well known for Coal deposits.

(Source - DSR-Bokaro - 2018)



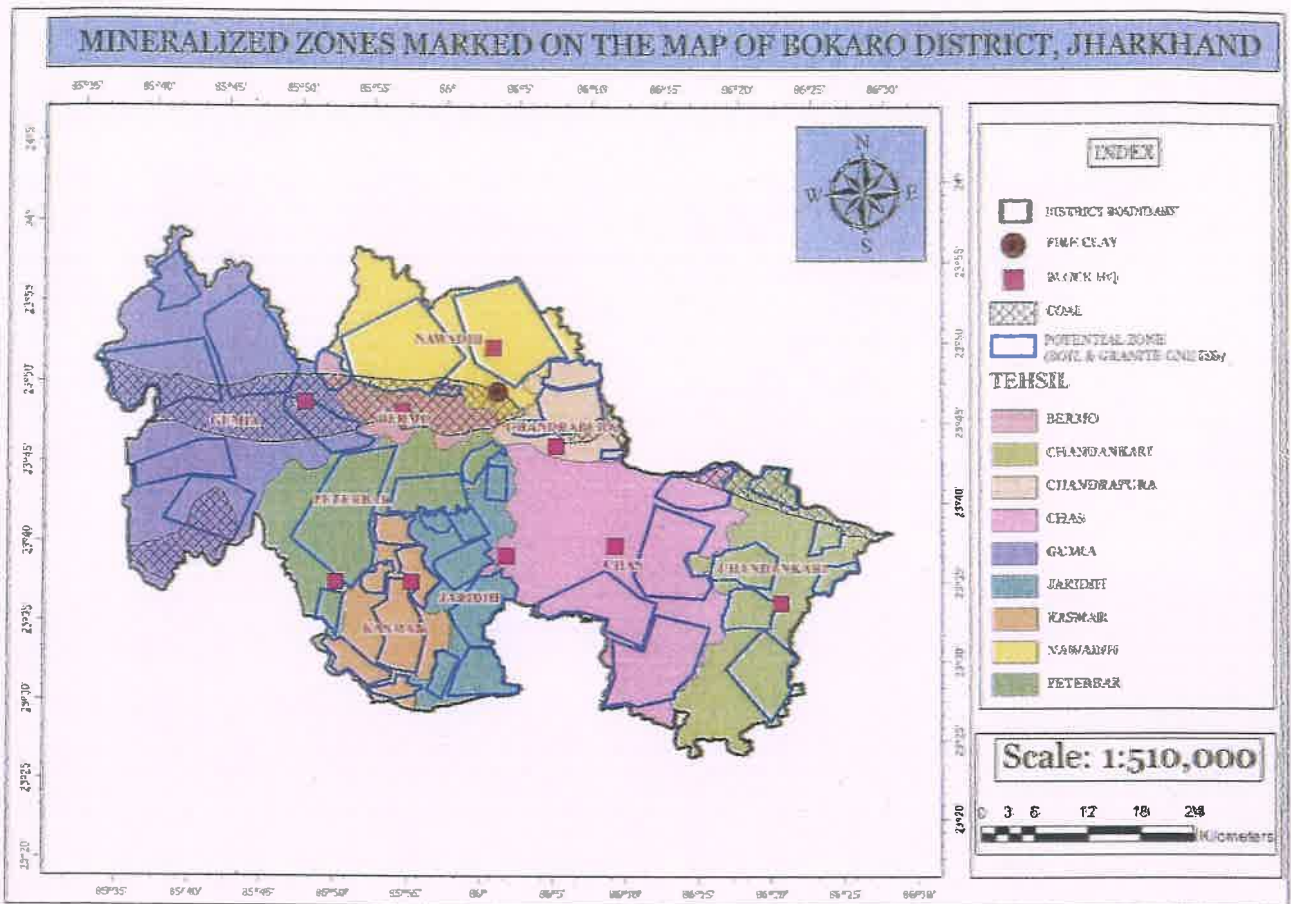


Fig. 4.2: Mineral Map of Bokaro District

(Source: JSAC, Deptt. of Mines & Geology, Govt. of Jharkhand)



5. DRAINAGE SYSTEM & IRRIGATION PATTERN

5.1 Drainage System:

The Damodar River is the most important river in the district which flows from west to east in the Central part of the district. The major tributaries of Damodar are Konar and Jamuniya. The minor tributaries of the Damodar river are Isri, Gobai, Tasharkuan, Kadwa, Khanju etc. The drainage system is mainly confined to weak zones viz. joints, fractures and faults.

Table 5.1: Drainage System with description of main Rivers

| Sl. No. | Name of the River | Area drained (Km ²) | % Area drained in the District |
|---------|-------------------|---------------------------------|--------------------------------|
| 1 | Tasharkuan River | 0.89 | 0.031 |
| 2 | Garga River | 1.41 | 0.049 |
| 3 | Gobai River | 2.53 | 0.088 |
| 4 | Godda Nala | 0.73 | 0.026 |
| 5 | Ijri River | 2.69 | 0.093 |
| 6 | Gantiko River | 0.79 | 0.028 |
| 7 | Konar River | 24.91 | 0.866 |
| 8 | Damodar River | 24.91 | 0.866 |
| 9 | Chirua Nala | 0.26 | 0.009 |
| 10 | Khalsa Nala | 0.45 | 0.016 |
| 11 | Bokaro River | 4.81 | 0.167 |
| 12 | Jamuniya River | 7.33 | 0.255 |

Table 5.2: Salient features of important River & Streams

| Sl. No. | Name of the River or Stream | Total Length in the District (in km) | Place of Origin |
|---------|-----------------------------|--------------------------------------|---------------------------------------|
| 1 | Tasharkuan River | 15.00 | |
| 2 | Garga River | 46.51 | Kasmar, Bokaro District |
| 3 | Gobai River | 37.78 | |
| 4 | Godda Nala | 14.73 | |
| 5 | Ijri River | 51.29 | |
| 6 | Gantiko River | 15.17 | |
| 7 | Konar River | 43.58 | Sultana village, Hazaribag |
| 8 | Damodar River | 178.77 | Near Chandwa village in Latehar |
| 9 | Chirua Nala | 4.60 | |
| 10 | Khalsa Nala | 9.38 | |
| 11 | Bokaro River | 31.85 | South of Hazaribag, Hazaribag plateau |
| 12 | Jamuniya River | 35.45 | Near Bishungarh, Hazaribag |



Table 5.3: Order of main Rivers of Bokaro District

| Sl. No. | River Name | Order |
|---------|------------------|-----------------|
| 1 | Damodar River | 8 th |
| 2 | Gobai River | 5 th |
| 3 | Ijri River | 4 th |
| 4 | Garga River | 5 th |
| 5 | Jamunia River | 4 th |
| 6 | Konar River | 6 th |
| 7 | Bokaro River | 7 th |
| 8 | Tasharkuan River | 2 nd |
| 9 | Gantiko River | 5 th |
| 10 | Godda Nala | 4 th |
| 11 | Chirua Nala | 5 th |
| 12 | Khalsa Nala | 3 rd |

• **Damodar River**

Damodar River begins near Chandwa village in Palamau district, on the Chhotanagpur Plateau of Jharkhand. It has a number of tributaries and sub tributaries, such as Barakar, Konar, Bokaro, Jamunia, Ghee, Khudia, Katri etc. Damodar River runs for about 178.77 kms within the district. The Barakar is the main tributary of the Damodar.

• **Jamunia River**

The Jamunia River is a tributary of the Damodar River. The Jamunia River rises on the Hazaribag plateau, near Bishungarh. It runs near the Grand Trunk Road from around Bagodar to past Dumri and then turns south, forms the border between Dhanbad and Bokaro districts. It runs for about 35.45 kms within the district.

• **Gobai River**

Gobai River is a tributary of Damodar River. It flows through Chandankiyari area and runs for about 37.78 kms within Bokaro district.

• **Ijri River**

Ijri River is a tributary of Gobai River which runs for about 51.29 kms within Bokaro district.

• **Garga River**

Garga River is a tributary of Damodar River which flows in Bokaro district. It runs for about 46.51 kms within Bokaro district.

• **Konar River**

The Konar River is a tributary of Damodar River in Bokaro and Hazaribag district of Jharkhand. It originates near Sultana village on the Hazaribag-Chatra Road. Thereafter, the Konar with its tributary Siwani drains a greater portion of the Hazaribag plateau, and then descending through the barren wastes of scrub and jungle passes Gomia to receive the waters of the Bokaro River, shortly before it joins the Damodar River near Jaridih Bazar in Bokaro district. It runs for about 43.58 kms within Bokaro district.

• **Bokaro River**

The Bokaro River flows through the Hazaribag and Bokaro districts in the Indian State of Jharkhand. The Bokaro River rises on the Hazaribag plateau, south of Hazaribag, but quickly skirts the southern face to pass in a narrow and beautiful valley between Jilinga and Langu Hills. It passes through the West Bokaro and East Bokaro Coalfields. It flows into the Konar River shortly before the latter flows into the Damodar River. It runs for about 31.85 kms within Bokaro district.



- **Tasharkuan River**

Tasharkuan River is a small river which flows in Bokaro district of Jharkhand. It runs for about 15.00 kms in the district.

- **Gantiko River**

Gantiko River is also a small River which flows in Bokaro district of Jharkhand. It runs for about 15.17 kms in the district.

- **Godda Nala**

Godda Nala is a small stream which flows in Bokaro district of Jharkhand. It runs for about 14.73 kms in the district.

- **Chirua Nala**

Chirua Nala is a small stream (nala) which flows in Bokaro district of Jharkhand. It runs for about 4.60 kms in the district.

- **Khalsa Nala**

Khalsa Nala is a small stream (nala) which flows in Bokaro district of Jharkhand. It runs for about 9.38 kms in the district.

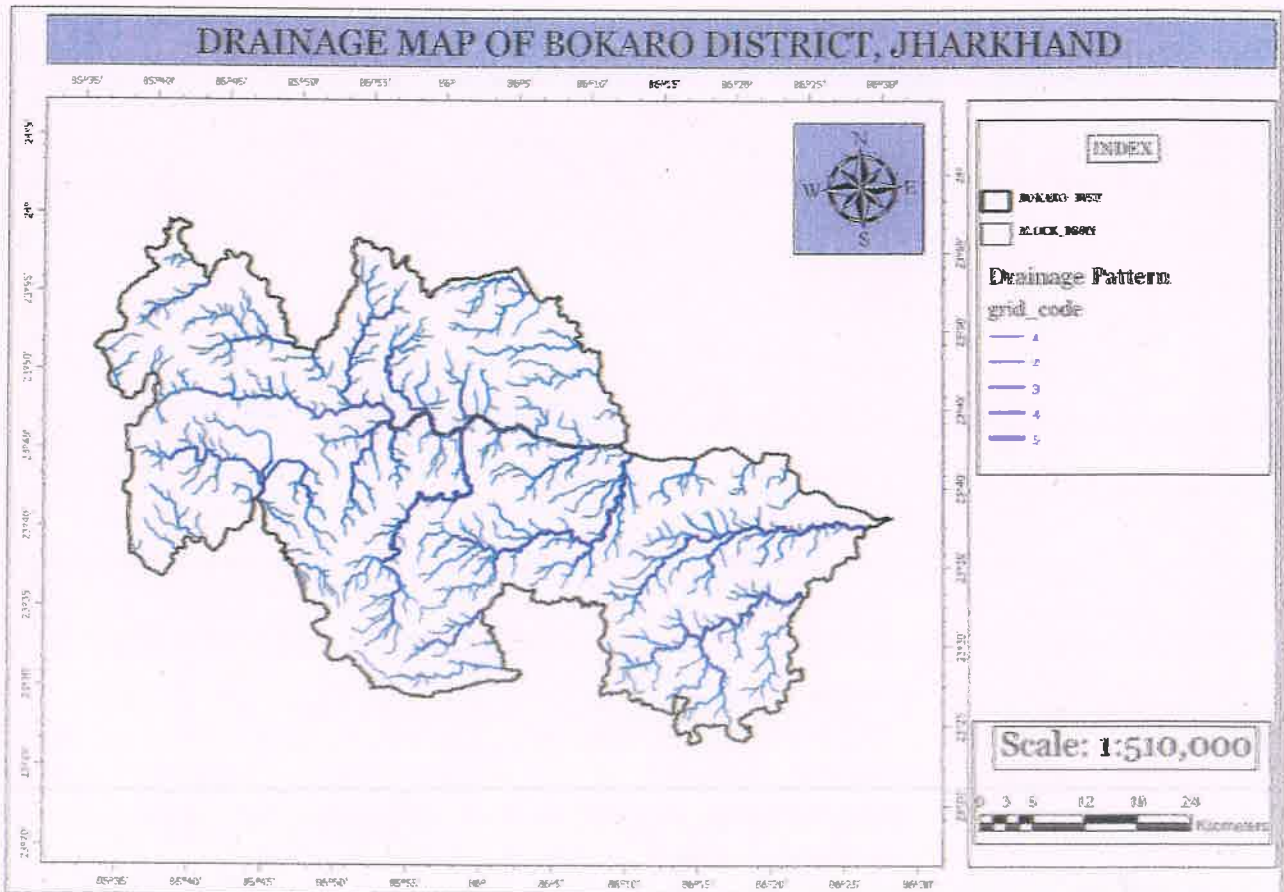


Fig. 5.1: Drainage Map of Bokaro District



5.2 Irrigation Pattern:

| Source of Irrigation | | Grand Total | |
|----------------------|---|--|---|
| Surface Irrigation | Canal Based | Govt. Canal 2 Community/Pvt. Canal 0 | |
| | Tanks/Ponds/ Reservoirs | Community Ponds 262 Individual/Pvt. Ponds 0 Govt. Reservoir 34 | |
| | Tube Wells | Govt. 37 Pvt. 6 Community/Govt. 2542 | |
| | Open Wells | Pvt. 6 Govt. 6 | |
| | Ground Water | Bore Wells Pvt. - | |
| | Other sources including Traditional WHS(3) | - | |
| | Treated effluent discharged from STP | - | |
| | Water Extraction devices/Lift | Electricity Pump | 6 |
| | | Diesel Pump | 6 |
| | | Others | - |
| Total | Irrigation Sources 2969 Water Extracting Units 0 | | |

Irrigation is a critical input in agriculture. The need for increased food-grain production in the district relates to development of water resources and its management. Ground water resources are more sustainable even under period of moisture stress and, therefore, greater emphasis is being laid on the optimum development and efficient management of these resources on scientific lines. Most importantly, irrigation acts as a buffer under drought conditions, whereby the protective irrigation can prevent crop loss.

Agriculture and forestry are the two main occupations of the local population in the Bokaro district but the land available for the cultivation is limited because of the hilly and rugged topography. The absence of proper and the assured source of the irrigation have impeded the growth of agriculture. Undulating topographic features characterize the district. The agricultural activity of the district is solely dependent upon the monsoon rainfall and the kharif crops mainly paddy is grown extensively.

Irrigational facilities are not adequate in the district. Well is the most common source of irrigation, but this is not very dependable source. The major part of the district being rocky, it is difficult to dig deep dug wells. Where there exists facility for irrigation during Rabi season from the ponds and store water in small nalas, vegetable is the major crop grown in that area. The summer paddy is grown in low lying areas in few places. Paddy and maize are important crops grown in the district.

The most common source of irrigation is the dug well, but this is not a very dependable source of irrigation. The major part of the district being rocky in nature, it is difficult to dig wells. The undulating nature of land makes it possible to store rain water by bunding. Apart from being dependent upon rains, these are by no means adequate. The result is that failure of rains invariably involves failure of crops except in small pockets.

The following table reveals the present status of irrigation in the district.



| Particulars | % in terms of Geographical Area | Area (In Ha.) |
|------------------------|---------------------------------|---------------|
| Geographical Area (GA) | 100% | 288100 |
| Net Sown Area | 30.16% | 86900.37 |
| Net Irrigated Area as | 10.01% | 8698.8 |

The details of irrigation source & facility are given in the following table.

| | | | | |
|--|-------|-----------------|------|--------|
| Percentage of Farmers land having access to irrigation | 20.68 | | | |
| Average irrigation coverage for farmers having access, acre/family | 0.64 | | | |
| Source of Irrigation | Well | Lift Irrigation | Pond | Others |
| %age of farmers | 65.56 | 26.67 | 4.44 | 3.33 |

The coverage of irrigated area as per source of irrigation is depicted below -

| Source | Coverage in ha. |
|---------------------------|-----------------|
| Rivers / Streams / Canals | 4627 |
| Waterbodies | 4983 |
| Total | 9610 |

(Source: District Irrigation Plan – Bokaro, Govt. of Jharkhand)



6. LAND UTILIZATION PATTERN OF THE DISTRICT

6.1 Forest:

Out of total geographical area of 2883 km², forest area covers nearly 576 km². The tribal economy revolves around using forest products, by products and minor products. Kendu leaves, Bamboo and its manufactured products, Mahua, fruits, leaves lac etc. play a role in the economic activity of the people. People also hunt animals for food and 'Jani Shikar' festival is related to this hunting habit.

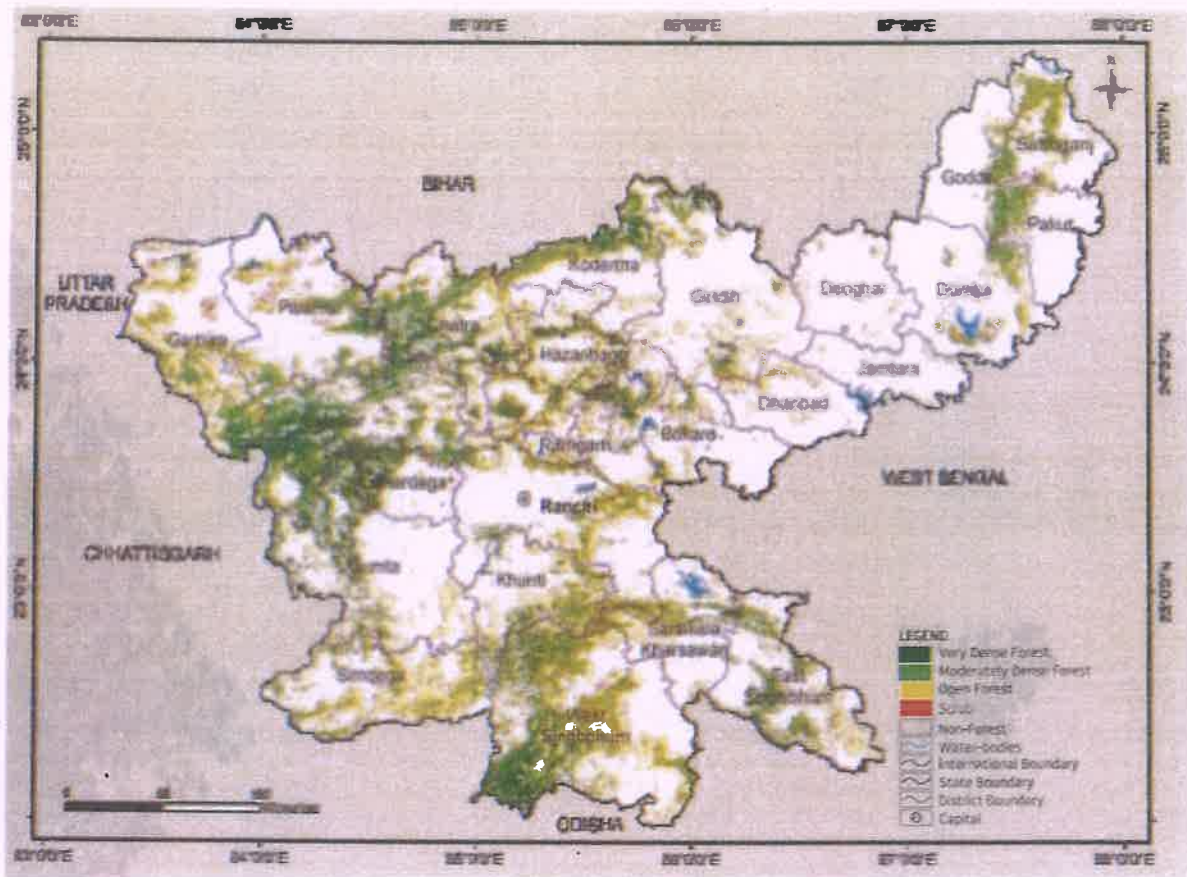


Fig. 6.1: Forest Cover Map of Jharkhand

(Source: India State of Forest Report, 2021)



Table 6.1: District wise Forest Cover Area in Jharkhand (Area in Km²)

| District | Geo-graphical Area (GA) | 2021 Assessment | | | | %of GA | Change wrt 2019 assessment | Scrub |
|---------------------|-------------------------|-------------------|-------------------|------------------|------------------|--------------|----------------------------|---------------|
| | | Very Dense Forest | Mod. Dense Forest | Open Forest | Total | | | |
| Bokaro | 2,883 | 60.99 | 231.94 | 283.07 | 576.00 | 19.98 | 2.45 | 37.95 |
| Chatra | 3,718 | 244.28 | 871.73 | 666.08 | 1,782.09 | 47.93 | 4.74 | 23.57 |
| Deoghar | 2,477 | 0.00 | 14.30 | 191.50 | 205.80 | 8.31 | 2.09 | 14.04 |
| Dhanbad | 2,040 | 0.00 | 44.00 | 174.18 | 218.18 | 10.70 | 4.67 | 16.05 |
| Dumka | 3,761 | 0.00 | 259.40 | 318.23 | 577.63 | 15.36 | 0.32 | 44.55 |
| East Singhbhum | 3,562 | 54.81 | 591.69 | 434.19 | 1,080.69 | 30.34 | 1.31 | 20.91 |
| Garhwa | 4,093 | 125.14 | 415.60 | 890.93 | 1,431.72 | 34.98 | 40.13 | 44.32 |
| Giridih | 4,962 | 77.16 | 338.56 | 490.19 | 905.91 | 18.26 | 4.67 | 28.92 |
| Godda | 2,256 | 12.81 | 271.88 | 138.66 | 423.35 | 18.68 | 0.00 | 14.27 |
| Gumla | 5,360 | 304.69 | 585.81 | 552.65 | 1,443.15 | 26.92 | 0.89 | 8.25 |
| Hazaribagh | 3,555 | 230.11 | 348.54 | 784.54 | 1,363.19 | 38.35 | 10.42 | 15.99 |
| Jamtara | 1,811 | 0.00 | 20.84 | 85.18 | 106.02 | 5.85 | 5.38 | 5.32 |
| Khunti | 2,535 | 72.97 | 344.59 | 495.18 | 913.74 | 36.04 | 8.25 | 3.11 |
| Koderma | 2,540 | 80.80 | 494.43 | 447.82 | 1,023.05 | 40.28 | -0.42 | 6.37 |
| Latehar | 4,291 | 480.36 | 1,308.93 | 613.75 | 2,403.04 | 56.00 | -3.30 | 9.30 |
| Lohardaga | 1,502 | 174.03 | 218.40 | 111.99 | 504.42 | 33.58 | -0.20 | 7.66 |
| Pakur | 1,811 | 2.96 | 172.40 | 111.64 | 287.00 | 15.85 | -0.13 | 20.06 |
| Palamu | 4,393 | 62.82 | 512.73 | 640.18 | 1,215.73 | 27.67 | 14.95 | 84.23 |
| Ramgarh | 1,341 | 30.96 | 709.32 | 190.98 | 331.26 | 24.70 | 2.26 | 14.49 |
| Ranchi | 5,097 | 62.89 | 363.91 | 741.98 | 1,168.78 | 22.93 | 4.29 | 27.98 |
| Sahibganj | 2,063 | 17.74 | 258.73 | 297.48 | 573.95 | 27.82 | 1.60 | 47.53 |
| Saraikela-Kharsawan | 2,657 | 22.03 | 213.84 | 338.73 | 574.60 | 21.63 | 0.56 | 21.87 |
| Simdega | 3,774 | 21.97 | 343.54 | 877.89 | 1,243.40 | 32.95 | 2.48 | 20.28 |
| West Singhbhum | 7,224 | 461.53 | 1,353.80 | 1,553.11 | 3,368.44 | 46.63 | 2.32 | 47.18 |
| Grand Total | 79,716 | 2,601.05 | 9,688.91 | 11,431.18 | 23,721.14 | 29.76 | 109.73 | 584.20 |

(Source: India State of Forest Report 2021 - Jharkhand)

6.2 Land Use Land Cover:

A total of 24 LU/LC categories have been recorded in Bokaro district as per report JSAC on Land Use /Land Cover mapping of Jharkhand. The Percent aerial distribution of different LU/LC classes has been displayed in Figure. Table 8.2:



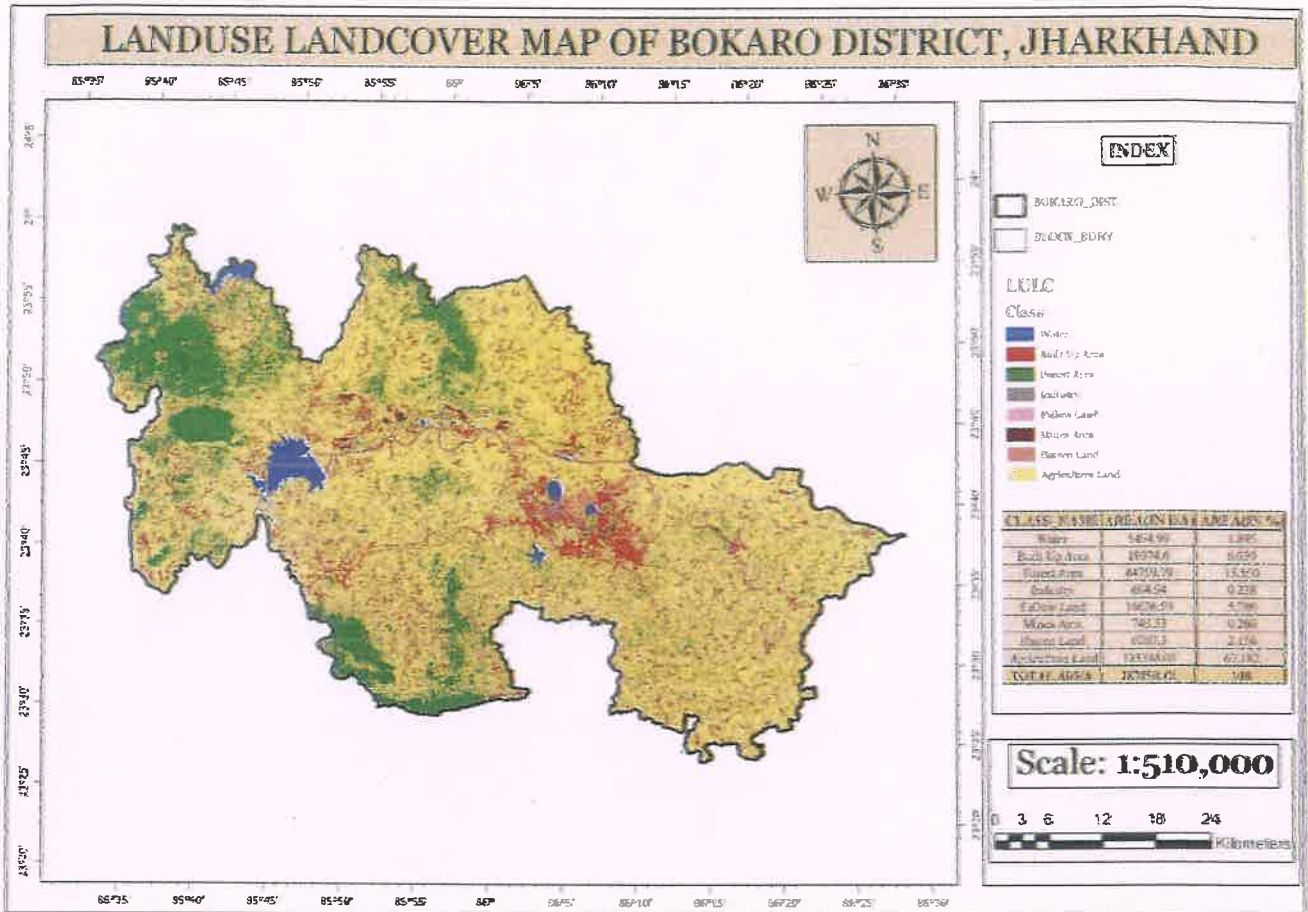
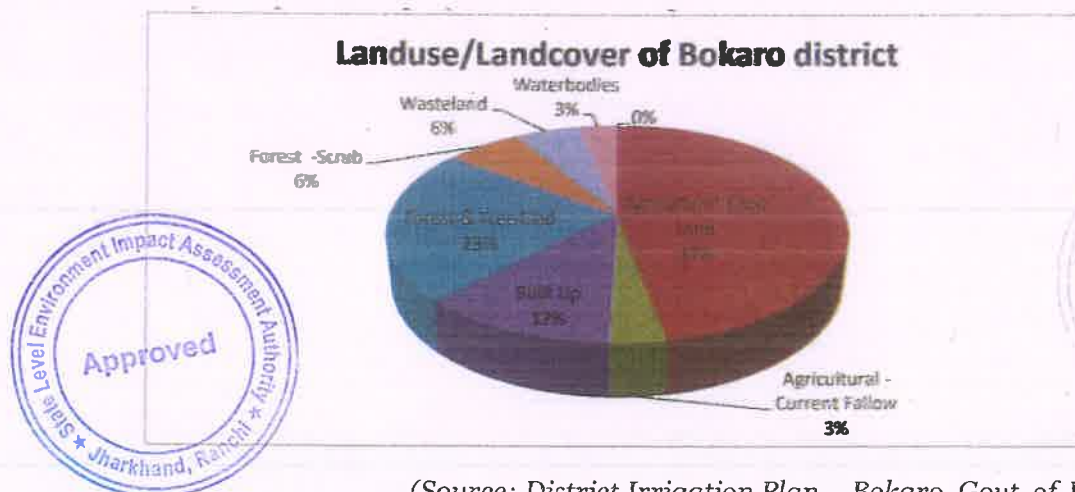


Fig 6.2: LULC Map of Bokaro District



| Sl. No. | Land use /land Cover Classes | Area (Km ²) | % of Total Geographical Area |
|---------|---|----------------------------|---------------------------------|
| 1 | Agricultural Land-Crop Land-Kharif crop | 1440.16 | 50.00 |
| | Plantation | 2.12 | 0.07 |
| | Agricultural Crop Land | 1442.28 | 50.08 |
| 5 | Agricultural Land-Fallow-Current Fallow | 105.53 | 3.66 |
| | Agricultural -Current Fallow | 105.53 | 3.66 |
| 6 | Built Up-Built Up (Rural)-Built Up area (Rural) | 195.89 | 6.80 |
| 7 | Built Up-Built Up (Urban)-Mixed Built Up area | 118.45 | 4.11 |
| 9 | Built Up-Mining/Industrial Area-Mine/Quarry | 44.49 | 1.54 |
| | Built Up | 358.83 | 12.46 |
| 10 | Forest-Deciduous (Dry/Moist/Thorn)-Dense | 697.58 | 24.22 |
| 11 | Forest Plantation | 5.95 | 0.21 |
| | Forest & Tree Clad | 703.53 | 24.43 |
| 12 | Forest-Scrub Forest | 185.86 | 6.45 |
| | Forest -Scrub | 185.86 | 6.45 |
| 14 | Wasteland-Barren Rocky/Stony waste | 2.16 | 0.07 |
| 16 | Wasteland-Scrub land-Open scrub | 171.72 | 5.96 |
| | Wasteland | 173.88 | 6.04 |
| 18 | Waterbodies- River/Stream/Canals | 46.27 | 1.61 |
| 19 | Waterbodies | 49.83 | 1.73 |
| | Waterbodies | 96.1 | 3.34 |
| | Total Area | 2880.15 | 100 |

The percentage area among major classified land categories is illustrated below:



(Source: District Irrigation Plan – Bokaro, Govt. of Jharkhand)

7. GROUND WATER SCENARIO OF THE DISTRICT

Ground water in the district is mainly replenished by the atmospheric precipitation. Influent seepages from canal, streams and other surface water bodies also contributes to the Ground water in the district. The hydrogeological condition of the district is very complicated due to wide variability of geology, topography, drainage and mining activity.

The district of Bokaro can be sub divided broadly into two hydrogeological units: -

- a) Fissured Formation.
- b) Porus Formation or Unconsolidated Formation.

Based on the degree of consolidation the fissured formation can be further sub divided into two namely:

- (i) **Consolidated Formation:** Ground water occurs in the area under confined to semi-confined conditions. The fractured lineaments are found to be an effective factor in facilitating Ground Water movement and storage.
- (ii) **Semi Consolidated Formation:** Ground water occur in this formation under confined to Semi-confined condition. These are found in the central part of the district.
- (iii) **Unconsolidated Formation:** It occupies the low laying area covered with recent alluvium deposited mainly by Damodar, Konar and Jamunia rivers. The ground water occurs in these areas under water table condition.
- (iv) **Exploratory Wells:** - 19 exploratory wells were drilled by CGWB and 5 EWs through outsourcing in the district the available data revelas that 1-2 nos. of fractures zone up to the depth of 150.00 m bgl. The static water level in the bore wells varies from 1.25 to 19.07 mbgl. The discharge varies from meagre to 415 lps.

Table 7.1 Exploratory Wells drilled by CGWB of Bokaro district as on 31.12.12

| Location | Depth (m bgl) | SWL (m bgl) | Fracture (m bgl) | Discharge (lpm) |
|-------------------------|---------------|-------------|-----------------------------|-----------------|
| SDO compound | 200.85 | 19.07 | 80.95, 111.45 | 135 |
| Mahila Polytechnic-1 | 200.00 | 4.98 | 21, 25, 149 | 108 |
| Mahila Polytechnic-2 | 190.90 | 4.50 | 17.5-19.00, 105 - 106.50 | 108 |
| Khutri | 191.00 | 1.25 | not encountered | meagre |
| Azadnagar-1 | 136.00 | 3.91 | 62.80 | 25 |
| Azadnagar-2 | 50.45 | - | - | meagre |
| Azadnagar-3 | 193.1 | 4.12 | - | 108 |
| Azadnagar-4 | 26.2 | - | - | meagre |
| Chandankiary-1 | 200.00 | 16.9 | 108.5, 139.00 | 150 |
| Chandankiary-2 | - | 17.02 | 147.95-148.5 | 43.86 |
| HS Baramasia-1 | 172.35 | 2.1 | 147.95-150 | 415 |
| HS Baramasia-2 | 154.05 | 2.3 | 144-145.5 | 415 |
| HS Baramasia-3 | 43.35 | 2.26 | not encountered | 72 |
| Chandra Inter Collage-1 | 55.90 | 2.45 | 30.00-30.50 | 72.6 |
| Chandra Inter Collage-2 | 123.00 | 2.43 | 96.00-98.00 | 72.6 |
| Mamarkudar, EW1 | 153.5 | - | not encountered | Low discharge |
| Mamarkudar, EW2 | 199.05 | - | not encountered | Low discharge |



| | | | | |
|----------------|-----|---|-----------------|---------------|
| Idgadih, EW | 184 | - | not encountered | Low discharge |
| Pindrajora, EW | 180 | - | not encountered | Low discharge |

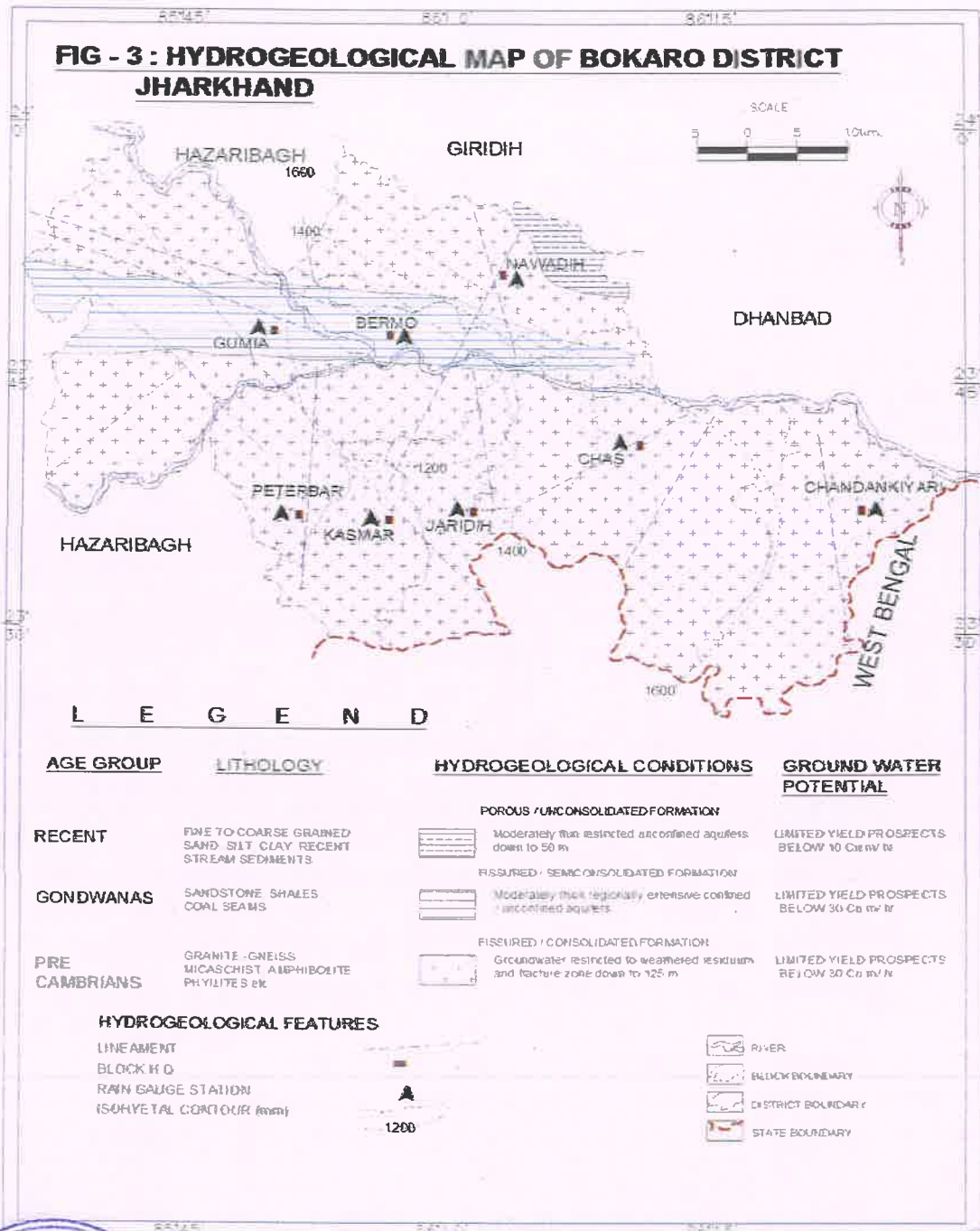


Fig. 7.1: Hydrogeological Map of Bokaro District, Jharkhand



Table 7.2: Exploratory Wells Drilled Through Outsourcing (Accelerated Drilling Programme) during AAP (2004-05)

| Location | Depth (m bgl) | SWL (m bgl) | Fracture (m bgl) | Discharge (lpm) |
|-------------------|---------------|-------------|--------------------------------|-----------------|
| Paddudih | 150 | 6.30 | 33.48 – 39.06 | Low |
| Galudih | 150 | 5.89 | 91.11 – 96.73 | Low |
| Naudiha | 150 | 4.01 | 28.10 – 33.72 39.34 – 44.96 | 2.11 |
| Chandankiyari | 150 | 4.33 | 15.50 – 18.50 74.25 – 79.87 | 2.11 |
| Nailanchal Ashram | 150 | 3.18 | 90.92 – 96.54 | < 1 |

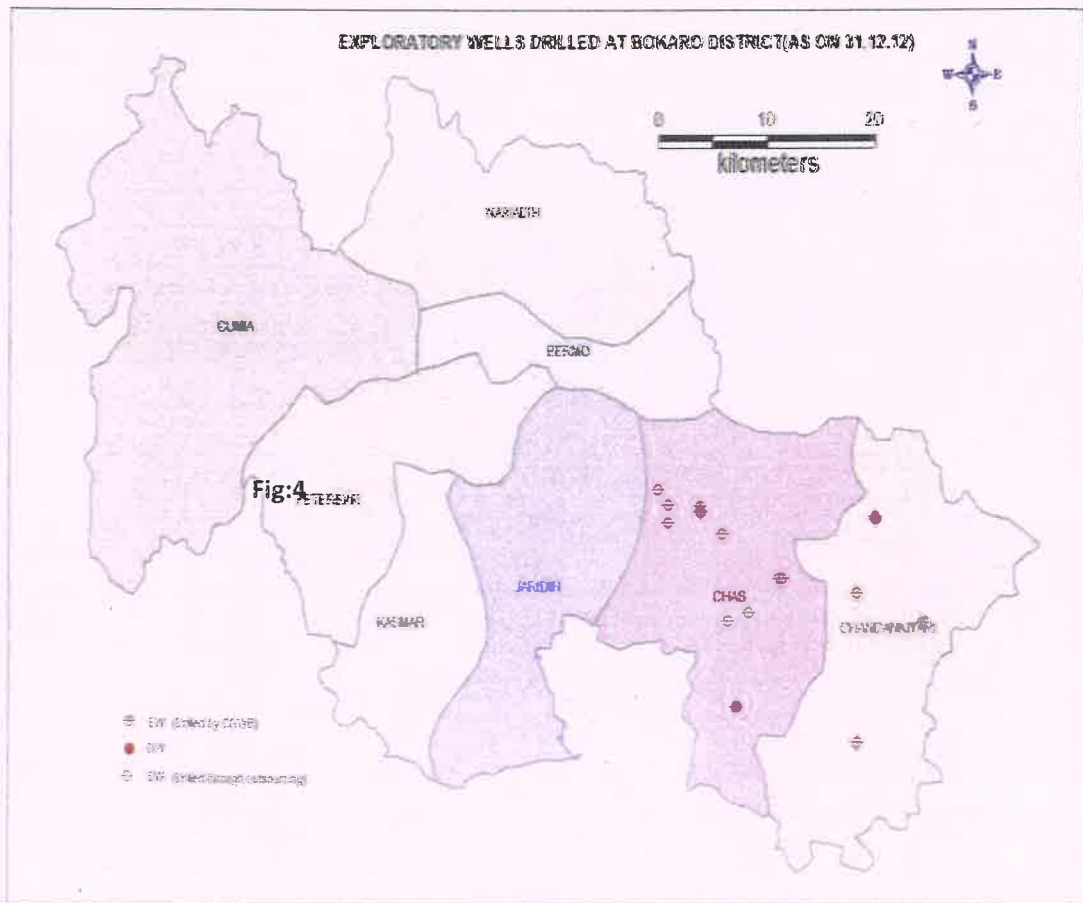


Fig. 7.2: Exploratory Wells Drilled at Bokaro District, Jharkhand



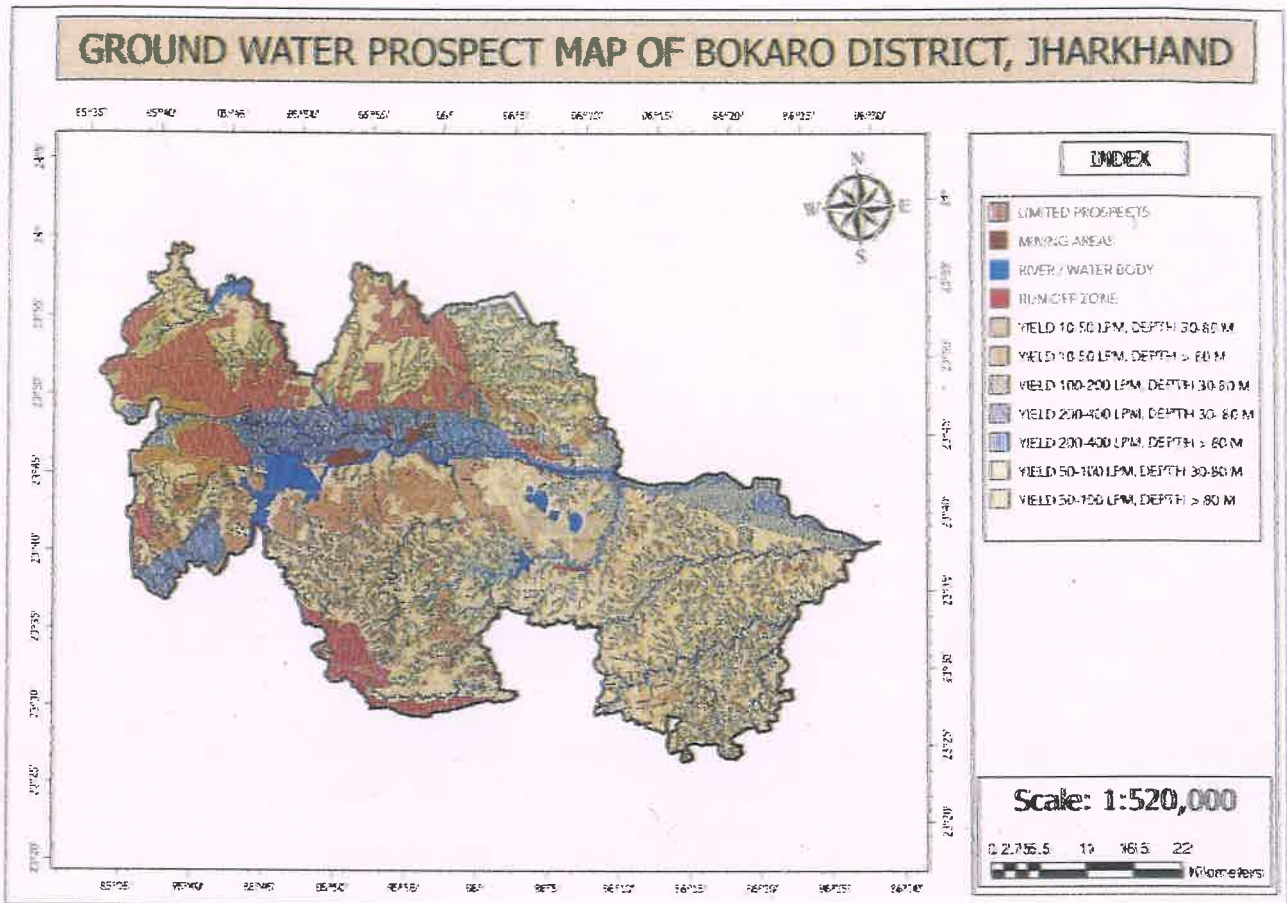


Fig 7.3: Groundwater Depth Map of Bokaro



| BLOCK | YEILD_(IN LPM) | DEPTH_(IN M) | BLOCK | YEILD_(IN LPM) | DEPTH_(IN M) |
|-------------|----------------|--------------|--------------|----------------|--------------|
| Gumia | 10-50 | 30-80 | Chas | 200-400 | 30-80 |
| | 50-100 | 30-80 | | 100-200 | 30-80 |
| | 200-400 | 30-80 | | 10-50 | >80 |
| | 100-200 | 30-80 | | 50-100 | >80 |
| | 200-400 | >80 | | 100-200 | 30-80 |
| Nawadih | 10-50 | 30-80 | Chandankiari | 200-400 | 30-80 |
| | 50-100 | 30-80 | | 200-400 | >80 |
| | 200-400 | 30-80 | | 50-100 | >80 |
| | 100-200 | 30-80 | | 10-50 | >80 |
| | 200-400 | >80 | Pererbar | 10-50 | 30-80 |
| | 10-50 | >80 | | 100-200 | 30-80 |
| Bermo | 50-100 | >80 | Pererbar | 200-400 | 30-80 |
| | 100-200 | 30-80 | | 50-100 | 30-80 |
| | 10-50 | 30-80 | | 10-50 | >80 |
| | 50-100 | 30-80 | 50-100 | >80 | |
| | 200-400 | >80 | Kasmar | 10-50 | 30-80 |
| 200-400 | >80 | 100-200 | | 30-80 | |
| Chandrapura | 50-100 | 30-80 | Jaridih | 50-100 | 30-80 |
| | 10-50 | >80 | | 10-50 | 30-80 |
| | 100-200 | 30-80 | | 100-200 | 30-80 |
| | 200-400 | 30-80 | | 50-100 | 30-80 |
| | 200-400 | >80 | | 10-50 | >80 |
| | | | | 50-100 | >80 |



Water Level Trend

Rainy season is only recharge period in the Bokaro district. The maximum observations wells show rising trend in the district. These are the localized rising patches in the area. The pre and post monsoon observations at Jaina More, Chas is showing falling trend $>0.2\text{m/yr}$. The trend of Ground Water Level is tabulated in table below:

Table 7.3: Trend of Ground Water Level during Period 2002-2011

| Location | Rise (Meter/Yr.) | Fall (Meter/Yr.) | Rise (Meter/Yr.) | Fall (Meter/Yr.) |
|--------------|---------------------|---------------------|---------------------|---------------------|
| | Pre-monsoon | | Post-monsoon | |
| Chandrapura | 0.2 | - | 0.028 | - |
| Phusro/Bermo | 0.483 | - | - | - |
| Pindarjora | 0.283 | - | - | 0.127 |
| Chas | - | 0.261 | - | 0.446 |
| Jaina More | - | 0.262 | - | 0.432 |
| Gomia | - | 0.179 | - | 0.233 |
| Tenughat | 0.15 | - | 0.035 | - |
| Nawadih | 0.246 | - | 0.231 | - |
| Petarbar | 0.113 | - | 0.108 | - |

Ground Water Resources

Table 7.4: Block wise Ground Water Resources of Bokaro District as on 31st March 2009

| Assessment Unit | Net Annual Ground water Availability | Existing Gross Ground Water Draft for Irrigation | Existing Gross Ground Water Draft for Domestic and Industrial Water Supply | Existing Gross Ground Water Draft For all Uses | Allocation for Domestic and Industrial Requirement at supply up to next 25 years | Net Ground Water Availability for future irrigation development | Stage of Ground Water Development (12/9) 100 (%) |
|-----------------|--------------------------------------|--|--|--|--|---|--|
| Bermo | 994.42 | 132.704 | 238.9 | 371.6 | 357.84 | 503.88 | 37.37 |
| Chandan Kyari | 2827.75 | 235.248 | 315.5 | 550.8 | 472.62 | 2119.88 | 19.48 |
| Chas | 5227.44 | 1631.424 | 1188.3 | 3947.68 | 1779.92 | 1816.09 | 75.52 |
| Gomia | 7328.04 | 713.632 | 279.8 | 993.4 | 419.05 | 6195.36 | 13.56 |
| Jaridih | 1481.31 | 401.824 | 142.9 | 544.7 | 213.01 | 866.48 | 36.77 |
| Kasmar | 1595.20 | 606.68 | 128.5 | 735.2 | 192.48 | 796.05 | 46.09 |
| Nawadih | 3495.12 | 608.768 | 266.5 | 875.3 | 399.22 | 2487.14 | 25.04 |
| Petarwar | 2459.13 | 873.712 | 191.6 | 1065.3 | 286.96 | 1298.46 | 43.32 |
| TOTAL (ham) | 25408.41 | 5203.99 | 2752.11 | 7956.10 | 4121.09 | 16083.33 | 31.31 |

Ground Water Resources assessment has been carried out based on the recommendations of Central Water Estimation Committee Report 1997 (GEF, 1997). The assessment has been evaluated for all the blocks of the districts falling under "Safe" Category except Chas which falls under semi critical category. The stage of Ground water development varies from



13.56% to 75.52 %.

Status of Ground Water Development:

Status of Ground Water Development

There is sufficient scope for shallow as well as deep bore wells in the district. Jharkhand State Government has constructed a number of bore wells to minimize the scarcity of drinking water problem. Central Ground Water Board has been drilled five bore wells up to 150 m bgl in the district. The discharge of bore wells ranges from less than 1 lps to 2.1 lps. The casing length varies from 6.07m to 19.40 m bgl. The static water level at Paddudih is maximum 6.30 m bgl.

| Govt. of Jharkhand Drinking Water & Sanitation Department Status of T/Wells as on 01.04.2012 | | | | | |
|--|----------|---------------------------------|-----------------------|-----------------------|---------------------|
| District | Division | No. of T/wells as on 01.04.2012 | Total Defunct. T/Well | No of Running T/wells | % Running Tube Well |
| Bokaro | Chas | 10845 | 1541 | 9304 | 85.79 |
| | Tenughat | 7457 | 1060 | 6397 | 85.79 |

Groundwater Resources

As per the latest resource estimation carried out following GEC 97 methodology, the overall stage of ground water development in Bokaro district is 27% indicating sufficient scope of development. All blocks are under safe category. The reconciled figure is as under:

| DYNAMIC GROUND WATER RESOURCES (2009) in cum. | |
|--|----------|
| Annual Replenishable Ground Water Resources | 25408.41 |
| Net Annual Ground Water Draft | 7956.10 |
| Projected Demand for Domestic and Industrial uses up to 2025 | 4121.09 |
| Stage of Ground Water Development | 31 % |

Groundwater Management Strategy

Ground Water Development: - The shallow and medium dug wells are suitable for extraction structures in the district. It is necessary for drinking as well as irrigation purpose. The stage of ground water development in the district is 31.31% only. Thus there is sufficient scope for development through dug well, shallow and medium bore wells. Construction of dug cum bore wells structure is also suitable for enhance the yield of dug well in respect of cost beneficial and economical. The Ground Water development varies in different places depending on the availability of favourable locations.

Potential availability for the Ground Water Development considering the Ground Water draft has been worked out as per norms of Ground Water Estimation Committee 1997 (GEC – 1997). The details of Ground Water recharge, estimation of annual Ground water availability, annual draft on net Ground water balance and stage of Ground water development has been evaluated. The total ground water draft for irrigation in the district is 5203.99 ham. The net annual ground water availability and the existing ground water draft for all uses is 25408.41 ham and 7956.10 ham respectively.



Water Conservation and Artificial Recharge

The total irrigation potential created is 10039 hectares and potential utilized 6526 hectares only as per 4th MI census. During rainy season most of the rain water goes as runoff. At many places shortage of water observed in the district. Construction of water conservation structures will help to arrest run off, recharge the aquifer and retain the soil moisture. Contour bunding, check dam, gully plug and percolation tanks are suitable structures in the hard rock areas. In mines area, water can be stored in the pond.

A master plan for artificial recharge has been prepared by CGWB. The identification of the area suitable for artificial recharge has been done on the basis of depth of mean post-monsoon water level. The areas where the average water level of last 10 years is more than 5 m bgl in post-monsoon period (November) has been considered suitable for artificial recharge. The basin wise surface water availability with 60% dependability has been taken from the existing field condition. The surface water required at 60% efficiency for artificial recharge is 62.2743 MCM. Total volume of water required for artificial recharge up to the depth of 3 mbgl is 37.29 MCM. Total surplus runoff available after the recharging of the required volume of water is 37.9257 MCM. The distribution of surplus surface water resource generated within the district is given below.

Table 7.8:

Requirement of Surface Water Resources for Artificial Recharge to Ground Water

| Name of District | Area identified for Artificial Recharge (km ²) | Volume of unsaturated zone available for recharge | Total Volume of water that can be recharged (MCM) | Surface Water required for recharge at 60% efficiency (MCM) | Total surface water available (MCM) | Total surplus runoff available (MCM) |
|------------------|--|---|---|---|-------------------------------------|--------------------------------------|
| Bokaro | 339 | 1006.83 | 37.29 | 62.2743 | 100.2 | 37.9257 |

Table 7.9: Number of Structures for Artificial Recharge

| District | Volume of water required at 60% Efficiency (mcm) | Resource to be harnessed by | | | | Estimated cost of structures in rupees (2011) (Lakhs) | |
|----------|--|-----------------------------|------|-----------|------|--|----------------------------|
| | | Percolation tank | | Nala Bund | | Percolation tank @ Rs. 27.75 lakhs | Nala Bund @ Rs. 3.07 lakhs |
| | | Vol MCM | Nos. | Vol MCM | Nos. | | |
| Bokaro | 62.2743 | 31.14 | 165 | 31.14 | 992 | 4578.750 | 3045.440 |

The volume of surface water considered for planning the artificial recharge is based on the surplus runoff availability and the space available for recharge. Based on the field situation, it has been considered that 50% storage will be through percolation tanks and 50% through Nala bunding in hard rock areas. For the percolation tank single filling capacity is 94 TCM. Considering 100% of double filling, the gross storage is 188 TCM. For Nala Bunding, single filling capacity of 12 TCM, the actual storage will be 30 TCM based on 250% of multiple filling.

Groundwater Related Issues & Problems

During Summer season the dug well dried away. The deeper ground water level has been observed in Bokaro District (Jharkhand). The ground water is contaminated with fluoride in two blocks. Iron is also found above desirable limit. Trace elements like Mn & Zn is found above permissible limit around industrial area.



Mass Awareness & Training Activity

Mass Awareness Programs and Water Management Training Programs by Central Ground Water Board: NIL

Participation in exhibition fair: NIL

Presentation & Lectures delivered in Public Forum/Audio/T.V./Institution of Repute/ Grassroots Associations/NGO/Academic Institutions etc.: NIL

Area Notified by Central Groundwater Board/Central Groundwater Authority

As per the ground water resource assessment evaluated all blocks of the district falling under the safe category. Thus, the authority has not been notified any blocks.

Land Use: - A large area about 25% of the district are under forest. The Cultivable land are divided into two categories - Low lands and uplands. Block wise statistical data reveals that only 29% of the total geographical area is cultivable. The highest percentage of cultivable area is found in Chandankiyari and Lowest being in Gomia block. The gross irrigated area is 14543 Ha.

(Source - cgwb-Bokaro)



8. RAINFALL AND CLIMATE OF THE DISTRICT

8.1 Rainfall & Humidity:

Rainfall: Bokaro area receives more rainfall which attracts clouds and brings rainfall to the area. Rainfall is the principal method of groundwater recharge to ground water. Southwest monsoon brings rainfall to this area during the months of June to October mainly. Normal data of the Bokaro IMD observatory indicates average 1363.57 mm of rainfall and maximum rain fall is 1669.58 mm.

The average rainfall which was observed in Bokaro in year 2016-2018 is presented below in the form of Table 8.1:

| | | | | | | |
|-------------------------|----------------------|---------------------|-----------------------|-----------------------|---------------------|----------------------|
| Month | Jan 2016 | Feb 2016 | March 2016 | April 2016 | May 2016 | June 2016 |
| Average Rainfall | 3.60 | 1.33 | 5.04 | 38.60 | 31.19 | 95.24 |
| Month | July 2016 | Aug 2016 | Sept 2016 | Oct 2016 | Nov 2016 | Dec 2016 |
| Average Rainfall | 201.31 | 329.3 | 206.70 | 17.97 | 0.0 | 0.0 |
| Month | Jan 2017 | Feb 2017 | March 2017 | April 2017 | May 2017 | June 2017 |
| Average Rainfall | 12.9 | 0.00 | 6.00 | 3.00 | 25.00 | 44.5 |
| Month | July 2017 | Aug 2017 | Sept 2017 | Oct 2017 | Nov 2017 | Dec 2017 |
| Average Rainfall | 534.4 | 267.8 | 213.6 | 175.8 | 8.1 | 0.00 |
| Month | Jan 2018 | Feb 2018 | March 2018 | April 2018 | May 2018 | June 2018 |
| Average Rainfall | 0.00 | 9.3 | 2.9 | 100.1 | 47.1 | 163.5 |
| Month | July 2018 | Aug 2018 | Sept 2018 | Oct 2018 | Nov 2018 | Dec 2018 |
| Average Rainfall | 284.5 | 474.9 | 238.4 | 20.6 | 0.7 | 66.8 |

(Source: District Statistical Office, Bokaro)

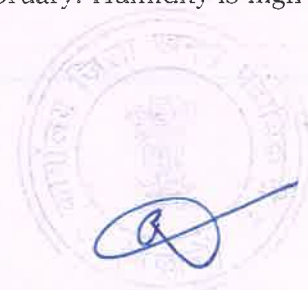
8.1.1 Relative Humidity, Wind Speed & Wind Direction

Relative humidity is generally lower in the afternoons than in the mornings, except in the monsoon months when there are little differences. The winter months are the driest with humidity as low as 10 to 20% in the afternoon. The mean annual humidity is nearby 60%.

Winds: Winds are light to moderate during the winter and summer months, the speed being higher in the afternoons. In association with thunder storms during March to May and during the monsoon season when depressions pass west word across the central parts of the country, the area experiences strong gusty winds. The directions from which winds blow are variable especially during the monsoon season. Predominant wind direction is from south-west.

8.2 Climatic Condition

The climate of Bokaro district is humid and sub-tropical. It is characterized by hot and dry summer from March to October and Cold winter from November to February. Humidity is high from July to September. The mean annual humidity is nearly 60%.



- **WINTERS**

Winter in the city begins in December and continues till February. The average day temperature during the season hovers around 25°C, while the minimum settles close to 8°C. Winter is the best month to visit the place.

- **SUMMERS**

March to June is the summer season for Bokaro. During this period the weather in the city is hot with day temperatures touching 40°C at times. On an average the maximum hovers around 37 degrees Celsius.

- **MONSOONS**

Monsoon in Bokaro is observed from June to September. The city experiences heavy rainfall during the season, with average rainfall recording 1000 mm. July is the rainiest month for the city, with monthly average rainfall of 334 mm.

8.2.1 Temperature

The summer season starts from the month of March with hot and humid conditions and ends in June. The maximum highest temperature varies from 46°C in the month of May and June while minimum temperature varies from 4°C to 7°C during December and January. Below table mentions the temperature variation throughout the year -

Table 8.2: Monthly average temperature distribution of Bokaro District: (in °C & °F)

| | January | February | March | April | May | June | July | August | September | October | November | December |
|----------------------------------|-------------------|-------------------|-------------------|--------------------|--------------------|--------------------|-------------------|--------------------|-------------------|-------------------|-------------------|-------------------|
| Avg. Temperature °C (°F) | 16.8 °C (62.2) °F | 20.8 °C (69.5) °F | 25.9 °C (78.6) °F | 30.1 °C (86.2) °F | 31.5 °C (88.7) °F | 30 °C (86) °F | 27.4 °C (81.3) °F | 27.1 °C (80.7) °F | 26.7 °C (80) °F | 24.8 °C (76.7) °F | 21.2 °C (70.2) °F | 17.5 °C (63.5) °F |
| Min. Temperature °C (°F) | 9.7 °C (49.4) °F | 13.4 °C (56.1) °F | 17.8 °C (64) °F | 22.4 °C (72.4) °F | 25.1 °C (77.2) °F | 26.2 °C (79.1) °F | 25.1 °C (77.1) °F | 24.7 °C (76.4) °F | 23.9 °C (75) °F | 20.4 °C (68.7) °F | 15.3 °C (59.5) °F | 10.9 °C (51.6) °F |
| Max. Temperature °C (°F) | 23.9 °C (75.1) °F | 28.1 °C (82.6) °F | 33.5 °C (92.2) °F | 38.1 °C (100.6) °F | 38.2 °C (100.7) °F | 38.7 °C (101.5) °F | 38.3 °C (101) °F | 38.4 °C (101.1) °F | 36.3 °C (87.3) °F | 29.3 °C (85.1) °F | 27.4 °C (81.3) °F | 24.4 °C (75.8) °F |
| Precipitation / Rainfall mm (in) | 13 (0) | 19 (0) | 18 (0) | 18 (0) | 63 (2) | 319 (12) | 330 (13) | 273 (11) | 210 (8) | 70 (2) | 10 (0) | 9 (0) |
| Humidity (%) | 62% | 54% | 41% | 36% | 50% | 68% | 84% | 85% | 84% | 77% | 66% | 65% |
| Rainy days (d) | 2 | 2 | 2 | 4 | 8 | 14 | 20 | 20 | 11 | 6 | 1 | 1 |
| avg. Sun hours (hours) | 9.1 | 9.7 | 10.6 | 10.9 | 10.7 | 9.5 | 7.7 | 7.2 | 7.4 | 8.7 | 9.2 | 8.9 |

(Source: <https://en.climate-data.org/asia/india/jharkhand/bokaro-969182/>)





**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND**

9. DETAILS OF EXISTING/WORKING 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 (Acres/ Ha.) | Period of Mining Lease | | | Period of Mining Lease (1 st /2 nd ...renewal) |
|---------|---------------------|---|--|---|-----------------------------------|------------------------|-----------------|-----|--|
| | | | | | | 7 | 8 | 9 | |
| 1 | Stone | M/s Bhole Minerals of Shri Rajesh Kumar Singh & Shri Laxman Singh | Q.No. - 2134, Street - 4 Sector - 4/A Bokaro Steel City Dist. - Bokaro | 5 Letter No. - 251, dated 28/01/2020 | 6 | 06.03.2020 | 05.03.2020 5 | N.A | N.A |
| 2 | Stone | M/s Jai Mata Enterprises Crusher & Quarry of Shri Om Prakash Singh & Shri Ram Singh | Q.No. - 262 Sector 1/B Bokaro Steel City Dist. - Bokaro | Letter No. - 393, dated 10/02/2020 | 3.00/ 1.22 | 07.03.2020 | 06.03.2020 0 | N.A | N.A |
| 3 | Stone | M/s Trimurti Quarry & Crusher Partner 1: Shri Birendra Kumar Pandey Partner 2: S/o Late Harihar Prasad Pandey Partner 3: Shri Jagdish Prasad Mahto S/o Late Deglal Mahto Partner 3: Shri Pravin Kumar Pandey S/o Late Shanti Prasad Pandey | Village + P.O. - Taranga P.S. - Chandrapura Dist. - Bokaro | Letter No. - 1284, dated 02/04/2016 | 3.50/ 1.42 | 12.12.2016 | 11.12.2026 | N.A | N.A |





**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND**

| | | | | | | | | | |
|---|-------|---|---|-------------------------------------|------------|------------|------------|-----|-----|
| 4 | Stone | M/sKirty Enterprises of Partner: Shri Yogendra Prasad S/o Shri Umacharan Mahito Partner: Shri Suresh Prasad S/o Shri Jagdish Mahto Partner: Shri Arjun Prasad S/o Shri Gulabchand Kumhar | Village + P.O. – Telo P.S. – Chandrapura Dist. - Bokaro | Letter No. – 295, dated 03/02/2020 | 2.505/1.01 | 06.03.2020 | 05.03.2030 | N.A | N.A |
| 5 | Stone | M/s Jyoti Minerals of Shri Mohan Lal Jain | Sector-4, C-38 City Centre Bokaro Steel City, Dist. – Bokaro -827013 | Letter No. – 49, dated 04/01/2024 | 7.02/2.84 | 15.01.2024 | 14.01.2034 | N.A | N.A |
| 6 | Stone | Part. (1) Md. Ishaq Ansari S/o Late Hazi Md. Kasim Ali Ansari (2) M. G. Mustafa S/o Md. Ishaq Ansari Shri Vishwakarma Stone Works, Pro. Shri Sahdeo Saw, S/o Late Lamtu Saw | Village – Noudiha, Post – Banstora, P.S. – Chandankiyari, Dist. - Bokaro | Letter No. – 53, dated 04/01/2024 | 3.33/1.347 | 06.01.2024 | 05.01.2029 | N.A | N.A |
| 7 | Stone | Shri Bhagwan Singh, S/o Late Meghu Singh | Village + Post – Dantu, P.S. – Kasmar, Dist. - Bokaro | Letter No. – 1196, dated 28/06/2023 | 4.11/1.66 | 19.07.2023 | 18.07.2028 | N.A | N.A |
| 8 | Stone | Shri Bhagwan Singh, S/o Late Meghu Singh | Village – Bermo Seam, Post + P.S. – Bermo, Dist. – Bokaro | Letter No. – 1197, dated 28/06/2023 | 2.24/0.906 | 20.07.2023 | 19.07.2033 | N.A | N.A |
| 9 | Stone | Hansda Enterprises, Pro. Shri Hiralal Manjhi, S/o Late Choupa Manjhi | Add. – Near Essar Petrol Pump, Tandmohanpur, Bandhdh, P.S. – Jaridih, Dist. Bokaro. | Letter No. – 50, dated 04/01/2024 | 3.58/1.415 | 15.01.2024 | 14.01.2029 | N.A | N.A |



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DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| | | | | | | | | | |
|----|-------|--|---|--|----------------|------------|------------|-----|-----|
| 10 | Stone | M/s Jharkhand Stone Works of Partner 1: Shri Radhanath Soren Partner 2: Shri Somar Nayak | Village-Utasara P.O. -Utasara P.S. -Peterwar Dist. - Bokaro | Letter No. - 2002, dated 28/06/2023 | 3.26/1.319 | 20.07.2023 | 19.07.2028 | N.A | N.A |
| 11 | Stone | M/s Samlleshwari Minerals of Shri Laxmi Narayan Singh S/o Late Indra Narayan Singh | Village + P.O. - Jainamora P.S.-Jaridih Dist.-Bokaro | Letter No. - 2000, dated 28/06/2023 | 5.00/2.02 | 20.07.2023 | 19.07.2028 | N.A | N.A |
| 12 | Stone | M/s Jugnu Construction Company of Auth. Signatory: Shri Jwala Singh, S/o Shri Lalan Kumar Singh | Add. - Naya Road, Phusro, P.S. Bermo, Dist. - Bokaro. | Letter No. - 1738, dated 11/10/2023 | 4.21/1.70 | 18.10.2023 | 17.10.2033 | N.A | N.A |
| 13 | Stone | M/s Karni Stone Pro. Shri Bhagwan Singh, S/o Late Meghu Singh | Village - Bermo Seam, Post + P.S. - Bermo, Dist. - Bokaro | Letter No. - 51, dated 04/01/2024 | 6.00/2.42 8 | 20.01.2024 | 19.01.2029 | N.A | N.A |
| 14 | Stone | M/s Khusbu Stone Mines, Pro. Shri Ratan Lal Yadav, S/o Shri Gopal Yadav | Village - Armo Basti, Post - Govindpur, P.S. - BTPS, Dist. Bokaro | Letter No. - 2001, dated 28/06/2023 | 1.52/0.615 | 20.07.2023 | 19.07.2028 | N.A | N.A |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| | | | | | | | | | |
|----|-------|--|---|--|-----------|------------|------------|-----|-----|
| 15 | Stone | M/s S. L. Enterprises, Part. (1) Shri Lalji Sahu, S/o Shri Govind Nayak, (2) Shri Sarfaraz Ahmad, S/o Sahabuuddin Khan | Add. - Village + Post - Telo, P.S. - Chandrapura, Dist. Bokaro | Letter No. - 1684, dated 29/09/2023 | 4.02/1.63 | 28.11.2023 | 27.11.2028 | N.A | N.A |
| 16 | Stone | Shri Amit Kumar, S/o Late Anil Kumar Sahu | Add. - Shanti Nagar, Near Rangoli Sweets House, Ratu Road, P.S. - Sukhdeo Nagar, Dist. - Ranchi, Pin- 834005 | Letter No. - 1876, dated 09/11/2023 | 2.64/1.07 | 06.12.2023 | 05.12.2028 | N.A | N.A |
| 17 | Stone | Shri Mithilesh Kumar Mahto S/o - Shri Shukhdeo Mahato | Village - Bahrapur P.O. - Chilgadda P.S. - Jaridih Dist. - Bokaro | Letter No. - 1431, dated 28/09/2024 | 1.85/0.74 | 20/09/2024 | 19/09/2034 | N.A | N.A |
| 18 | Stone | Shri Shahdeo Saw S/o - Late Lamtu Saw | Village + P.O. - Dantu Thana - Kasmar Dist. - Bokaro | Letter No. - 1196, dated 28/06/2023 | 4.11/1.66 | 19/07/2023 | 18/07/2028 | N.A | N.A |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| | | | | | | | | | |
|----|-------|---|---|--|-----------|------------|------------|-----|-----|
| 19 | Stone | M/s Jyoti Minerals of Shri Mohan Lal Jain S/o - Late Shri Ram Jain | At C/38, City Centre, Sector 4 P.S. - BTPS Dist. - Bokaro | Letter No. - 1629, dated 15/09/2023 | 7.30/2.95 | 19/07/2023 | 27/11/2028 | N.A | N.A |
| 20 | Stone | Md. Naim Ansari S/o - Late Hazai Kasim Ali Ansari | Village - Naudiha P.O. - Banstoda P.S. - Chandankiyari Dist. - Bokaro | Letter No. - 92, dated 09/01/2024 | 1.50/0.60 | 15/06/2024 | 14/06/2024 | N.A | N.A |
| 21 | Stone | M/s Jyoti Minerals of Shri Mohan Lal Jain S/o - Late Shri Ram Jain | At C/38, City Centre, Sector 4 P.S. - BTPS Dist. - Bokaro | Letter No. - 1198, dated 28/06/2023 | 4.46/1.80 | 19/07/2023 | 18/07/2028 | N.A | N.A |
| 22 | Stone | M/s Bhairawi Stone of Partner 1: Shri Krishna Kumar Dangi S/o - Shri Arun Chandra Dangi Partner 2: Shri Prakritesh Chandravanshi S/o - Shri Suresh Kumar | Partner 1: Village - Dabhatu P.O. - Kumhardaga P.S. - Gola Dist. - Ramgarh Partner 2: Village - Heramdaga P.O. - Chanrdi P.S. - Gola Dist. - Ramgarh | Letter No. - 975, dated 22/06/2024 | 2.50/1.01 | 29/07/2024 | 28/07/2029 | N.A | N.A |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| | | | | | | | | | |
|----|-------|--|--|--|-----------|-------------------|------------|-----|-----|
| 23 | Stone | Shri Om Prakash Pandey S/o Late Satyadev Pandey | Village – Bogla P.O. – Galgaltand P.S. – Chandankiyari Dist. – Bokaro | Letter No. – 1215, dated 14/08/2024 | 4.80/1.94 | 10/08/2024 | 09/08/2029 | N.A | N.A |
| 24 | Stone | Samleshwari Road Builders, Pro. Shri Binayak Kumar, S/o Late Braj Kishore Kumar | B-1, Phase-1, Industrial Area, Near Old UBI, Balidih, Bokaro | Not Grant | 5.13/2.07 | Deed not executed | | N.A | N.A |
| 25 | Stone | Maa Vishno Enterprises, Part. (1) Shri Bijay Kumar Agarwala, S/o Jhabarmal Agrawal (2) Shri Ritesh Roshan, S/o Shri Bhagwan Singh | (1) House No. – 1277, Mangal Bhawan, Main Road Phusro, Near Ram Ratan Higher School, Post – Phusro, P.S. – Bermo, Bokaro (2) House No. 1922, Anugrah Nagar, Bermo Seam, Post – Phusro, P.S. – Bermo, Bokaro | Letter No. – 1430, dated 28/09/2024 | 5.94/2.40 | 20/09/2024 | 19/09/2034 | N.A | N.A |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| Sl. No. | Date of commencement of Mining Operation | Status(Working/Non-working/Temp. Workingfordispatch | Captive/Non-Captive | ObtainedEnvironmental Clearance (Yes/No), If Yes, Letter No. with Dateofgrant ofEC | Location of theMining Lease(Latitude &Longitude) | Method of Mining(Open cast/Underground) |
|---------|--|---|---------------------|--|--|---|
| 1 | 11 06/03/2020 to 05/03/2025 | 12 Working | 13 Non-Captive | 14 (Yes), EC Letter No. - 704, dated 08/11/2019 | 15 23°35'47.3" to 23°35'40.9" N 86°03'28.5" to 86°3'22.3" E | 16 Opencast |
| 2 | 07/03/2020 to 06/03/2030 | Working | Non-Captive | (Yes), EC Letter No. - 618, dated 04/11/2019 | 23°41'05.70" to 23°41'10.40" N 86°15'57.70" to 86°15'56.30" E | Opencast |
| 3 | 12/12/2016 to 11/12/2026 | Working | Non-Captive | (Yes), EC Letter No. - 2266, dated 30/12/2015 | 23°47'24.66" to 23°47'29.23" N 86°09'05.32" to 86°09'08.16" E | Opencast |
| 4 | 06/03/2020 to 05/03/2030 | Working | Non-Captive | (Yes), EC Letter No. - 709, dated 08/11/2019 | 23°48'58.7" to 23°49'01.2" N 86°06'31.4" to 86°06'31.2" E | Opencast |
| 5 | 15/01/2024 to 14/01/2034 | Working | Non-Captive | (Yes), EC Letter No. - 391, dated 02/11/2023 | 23°30'53.236" to 23°30'59.903" N 86°13'20.582" to 86°13'31.436" E | Opencast |





**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND**

| | | | | | | |
|----|--------------------------|---------|-------------|---|---|----------|
| 6 | 06/01/2024 to 05/01/2023 | Working | Non-Captive | (Yes), EC Letter No. - 349, dated 02/11/2023 | 23°31'39.1117" to 23°31'44.8087" N 86°21'43.8429" to 86°21'48.275" E | Opencast |
| 7 | 19/07/2023 to 18/07/2028 | Working | Non-Captive | (Yes), EC Letter No. - 110 dated 07/06/2023 | 23°40'10.95" to 23°40'16.10" N 85°52'50.55" to 85°52'56.57" E | Opencast |
| 8 | 20/07/2023 to 19/07/2033 | Working | Non-Captive | (Yes), EC Letter No. - 127, dated 09/06/2023 | 23°44'36.01" to 23°44'40.81" N 86°02'31.53" to 86°02'36.61" E | Opencast |
| 9 | 10/11/2024 to 09/11/2029 | Working | Non-Captive | (Yes), EC Letter No. - 446, dated 02/11/2023 | 23°41'41.610" to 23°41'38.695" N 85°49'12.904" to 85°49'20.549" E | Opencast |
| 10 | 20/07/2023 to 19/07/2028 | Working | Non-Captive | (Yes), EC Letter No. - 129, dated 09/06/2023 | 23°41'22.06" to 23°41'26.22" N 85°52'11.15" to 85°52'17.55" E | Opencast |
| 11 | 20/07/2023 to 19/07/2028 | Working | Non-Captive | (Yes), EC Letter No. - 128, dated 09/06/2023 | 23°42'26.21" to 23°42'30.28" N 86°02'18.54" to 86°02'27.55" E | Opencast |
| 12 | 18/10/2023 to 17/10/2033 | Working | Non-Captive | (Yes), EC Letter No. - 246, dated 01/09/2023 | 23°44'48.09" to 24°44'44.37" N 86°02'39.50" to 86°02'42.71" E | Opencast |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

| | | | | | | |
|----|--------------------------|-------------|-------------|---|--|----------|
| 13 | 10/01/2024 to 10/12/2028 | Working | Non-Captive | (Yes), EC Letter No. - 410, dated 02/11/2023 | 23°42'33.869" to 23°42'41.141" N 86°01'32.699" to 86°01'39.269" E | Opencast |
| 14 | 20/07/2023 to 19/07/2028 | Working | Non-Captive | (Yes), EC Letter No. - 107, dated 07/06/2023 | 23°50'22.51" to 23°50'26.74" N 85°50'52.13" to 85°50'55.49" E | Opencast |
| 15 | 28/11//2023 to 27/11/28 | Working | Non-Captive | (Yes), EC Letter No. - 155, dated 08/07/2023 | 23°50'3.98" to 23°50'10.21" N 86°6'53.98" to 86°6'57.56" E | Opencast |
| 16 | 06/12/2023 to 05/12/2028 | Working | Non-Captive | (Yes), EC Letter No. - 287, dated 06/10/2023 | 23°33'35.345" to 23°33'41.031" N 85°56'56.143" to 85°56'59.962" E | Opencast |
| 17 | 20/09/2024 to 19/09/2034 | Non-Working | Non-Captive | (Yes), EC Letter No. - 254, dated 07/09/2024 | 23°35'00.80" to 23°35'04.82" N 86°01'17.37" to 86°01'23.56" E | Opencast |
| 18 | 19/07/2023 to 18/07/2028 | Working | Non-Captive | (Yes), EC Letter No. - 110, dated 07/06/2023 | 23°40'10.95" to 23°40'16.10" N 85°52'50.55" to 85°52'56.57" E | Opencast |





**DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND**

| | 19/07/2023 to 18/07/2028 | Working | Non-Captive | (Yes), EC Letter No. - 49, dated 09/05/2024 | Opencast |
|----|--------------------------|-------------|-------------|---|----------|
| 20 | 15/06/2024 to 14/06/2024 | Non-Working | Non-Captive | (Yes), EC Letter No. - 431, dated 02/11/2023 | Opencast |
| 21 | 19/07/2023 to 18/07/2028 | Non-Working | Non-Captive | (Yes), EC Letter No. - 109, dated 07/06/2023 | Opencast |
| 22 | 29/07/2024 to 28/07/2029 | Working | Non-Captive | (Yes), EC Letter No. - 75, dated 27/05/2024 | Opencast |
| 23 | 10/08/2024 to 09/08/2029 | Non-Working | Non-Captive | (Yes), EC Letter No. - 157, dated 16/07/2024 | Opencast |
| 24 | Deed not executed | Non-Working | Non-Captive | (Yes), EC Letter No. - 317, dated 18/10/2024 | Opencast |
| 25 | 20/09/2024 to 19/09/2034 | Non-Working | Non-Captive | (Yes), EC Letter No. - 249, dated 07/09/2024 | Opencast |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

जिला खनन कार्यालय, बोकारो।

2023-24 में बोकारो जिलान्तर्गत वैध रूप से संचालित स्थायी ईट चिमनी भट्टों की विवरणी।

| क्र० | ईट भट्टेदार का नाम एवं पता | भट्टा स्थल की विवरणी |
|-------------|--|---|
| जरीडीह अंचल | | |
| 1 | मेसर्स मून ब्रिक्स, प्र० श्री अमूल्य कुमार महतो, पिता स्व० गोविन्द महतो, ग्राम-बाराडीह, पो०-बौधडीह, थाना-जरीडीह, जिला-बोकारो | थाना-जरीडीह, मौजा-बाराडीह |
| 2 | मेसर्स जय माता दी इन्टरप्राइजेज, प्र० श्री हस्प्रित सिंह जग्गी, पिता श्री नरेन्द्र सिंह जग्गी, ग्राम+पो०-जैनामोड़, थाना-जरीडीह, जिला-बोकारो। | मौजा - गौगजोरी, थाना - जरीडीह, खाता नं०- 56, प्लॉट नं०- 993, 977, रकवा - 0.582 हेक्टेयर। |
| 3 | मेसर्स सन ब्रिक्स, प्र० श्री योगेन्द्र महतो, पिता श्री परमानन्द महतो, ग्राम-बाराडीह, पो०-बौधडीह, थाना-जरीडीह, जिला-बोकारो। | मौजा - बाराडीह, थाना - जरीडीह, खाता नं०- 05, 06, 54, प्लॉट नं०- 278, 279, 280, रकवा - 2.50 एकड़ |
| 4 | एम० बी० एस० ब्रिक्स, प्र० श्री रामाकान्त महतो, पिता श्री नन्दलाल महतो, ग्राम-बरमसिया, पो०-गौगजोरी, थाना-जरीडीह, जिला-बोकारो। | मौजा - गौगजोरी, टोला-निधितपुर, थाना - जरीडीह, खाता नं०- 50, 43, प्लॉट नं०- 891, 893, 926, रकवा - 3.30 एकड़। |
| कसमार अंचल | | |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

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|------------------------|--|---|
| 5 | सर्वश्री नायक ब्रिक्स इण्डस्ट्रीज, प्रो० श्री लक्ष्मण कुमार नायक, पिता श्री प्रेमचन्द नायक, ग्राम+पो०-दौतू, थाना-कसमार, जिला-बोकारो। | थाना-कसमार, मौजा-ओरमो, खाता नं०-07, प्लॉट नं०-08(अंश), 10 से 15 रकबा-8.54 एकड़ |
| 6 | मेसर्स आर० के० एन० ब्रिक्स, प्रो० श्री बालेश्वर नायक, पिता स्व० कर्मचन्द नायक, ग्राम-कमलापुर, पो०-पोण्डा, थाना-कसमार, जिला-बोकारो। | थाना-कसमार, मौजा-हलुमा हँसलता, खाता नं०-26, प्लॉट संख्या-921 एवं 912 के रकबा-1.01 एकड़ |
| चन्द्रपुरा अंचल | | |
| 7 | मेसर्स भवानी ब्रिक्स सप्लायर्स, प्रो० श्री पुरुषोत्तम कुमार झा, पिता स्व० महावीर झा, ग्राम-दुग्धा बस्ती, पो०-करमाटौड़, थाना-दुग्धा, जिला-बोकारो। | मौजा - दुग्धा, थाना - दुग्धा, खाता नं०- 40, 142, प्लॉट नं०- 2113, 2115, 2116, 2117, 2118, रकवा - 0.95 हेक्टेयर, 2.35 एकड़ |
| 8 | मेसर्स हिन्दुस्तान ब्रिक्स सप्लायर्स (यूनिट-2), प्रो० श्री जितेन्द्र कुमार स्वामी, पिता श्री बन्नी नारायण स्वामी, ग्राम-दुग्धा बस्ती, पो०-करमाटौड़, थाना-दुग्धा, जिला-बोकारो। | मौजा - दुग्धा, मोतियाटौड़ (यूनिट-2) थाना - दुग्धा, खाता नं०- 56, प्लॉट नं०- 1958, रकवा - 1.64 एकड़ |
| 9 | मेसर्स हिन्दुस्तान ब्रिक्स सप्लायर्स, (यूनिट-1) प्रो० श्री जितेन्द्र कुमार स्वामी, पिता श्री बन्नी नारायण स्वामी, ग्राम-दुग्धा बस्ती, पो०-करमाटौड़, थाना-दुग्धा, जिला-बोकारो। | मौजा - दुग्धा, महुआबिड़ा (यूनिट-1) थाना - दुग्धा, खाता नं०- 236, प्लॉट नं०- 2130, रकवा - 2.76 एकड़ |
| 10 | मेसर्स हनुमान ब्रिक्स सप्लायर्स, | मौजा - बलुआबाद, थाना - |





DISTRICT SURVEY REPORT OF MINOR MINERAL (STONE) OTHER THAN SAND MINING OR RIVER-BED MINING FOR
BOKARO DISTRICT OF JHARKHAND

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| | प्रो० श्री पारस साव, पिता श्री मनसु साव, ग्राम-दुग्धा, पो०-करमाटोई, थाना-दुग्धा, जिला-बोकारो। | दुग्धा, खाता नं०- 236, प्लॉट नं०- 3450, रकबा - 3.95 एकड़ |
| 11 | श्री डीतु राम महतो, पिता सोमर महतो, ग्राम-नीचे तुरियो, पो०-भण्डारीदह, थाना-चन्द्रपुरा, जिला-बोकारो | थाना-चन्द्रपुरा मौजा-तारपी, खाता नं०-99 / 26, प्लॉट नं०-994, रकबा-0.80 हे० |
| पेटरवार अंचल | | |
| 12 | मेसर्स सन ब्रिक्स, प्रो० श्री रामलाल महतो, | थाना-पेटरवार, मौजा-नावाडीह, टोला-बाराकेन्दुआ, खाता नं०-66, प्लॉट नं०-752, रकबा-1.91 एकड़ |



**10. DETAILS OF ROYALTY OR REVENUE RECEIVED IN
LAST THREE YEARS**

| Sl. No | Financial Year | Royalty (in Rupees) |
|--------|--------------------------|------------------------|
| 1 | 2019-20 | 434.05 Lakhs |
| 2 | 2020-21 | 589.30 Lakhs |
| 3 | 2021-22 | 549.32 Lakhs |
| 4 | 2022-23 (Up to Dec. 022) | 461.69 Lakhs |

जिला खनन कार्यालय, बोकारो।

बोकारो जिलान्तर्गत विगत 03 वर्षों में पत्थर खनिज के बावत राजस्व संग्रहण प्रतिवेदन निम्न प्रकार है :-

| वित्तीय वर्ष | संग्रहण |
|-------------------------|----------------|
| 2019-20 | 434.05 लाख रु० |
| 2020-21 | 589.30 लाख रु० |
| 2021-22 | 549.32 लाख रु० |
| 2022-23 (दिसम्बर 22 तक) | 461.69 लाख रु० |



11. DETAILS OF PRODUCTION OF MINOR MINERALS
IN LAST THREE YEARS

| Sl. No. | Year | Production (in Cft.) |
|---------|---------|----------------------|
| 1 | 2019-20 | 13805926.980 |
| 2 | 2020-21 | 7196400.000 |
| 3 | 2021-22 | 8455770.500 |



12. MINERAL MAP OF THE DISTRICT

12.1 Mineral Wealth

The Jharkhand State is known for its rich mineral resources. Bokaro district is a part of Chhotanagpur Plateau. It is highly undulating and hilly all over the district. The regional slope of the district is towards east and controlled by the alignment of the tributaries of Damodar River. The hill ranges trending WNW-ESE. The average elevation of the undulating pediplain ranges from 200–350 m above MSL. The highest hill prominent block is Gomia. The northern and western part of the district having hilly ranges. Chas and Chandankiyari are low upland where cultivation is practiced. Geologically, the area is comprised with Archaean Granites and Gneisses. In the uplands, considerable thickness of laterite of Pleistocene age is found in the granite and gneisses tracts. Alluvium of recent to sub-recent age is found in the river valley. The main mineral resources found in the Bokaro district are Coal, Limestone, Coal Bed Methane (CBM), Quartzite, General Stones, Brick Clays & River sand. A generalized mineral map of Bokaro District, Jharkhand is given below.

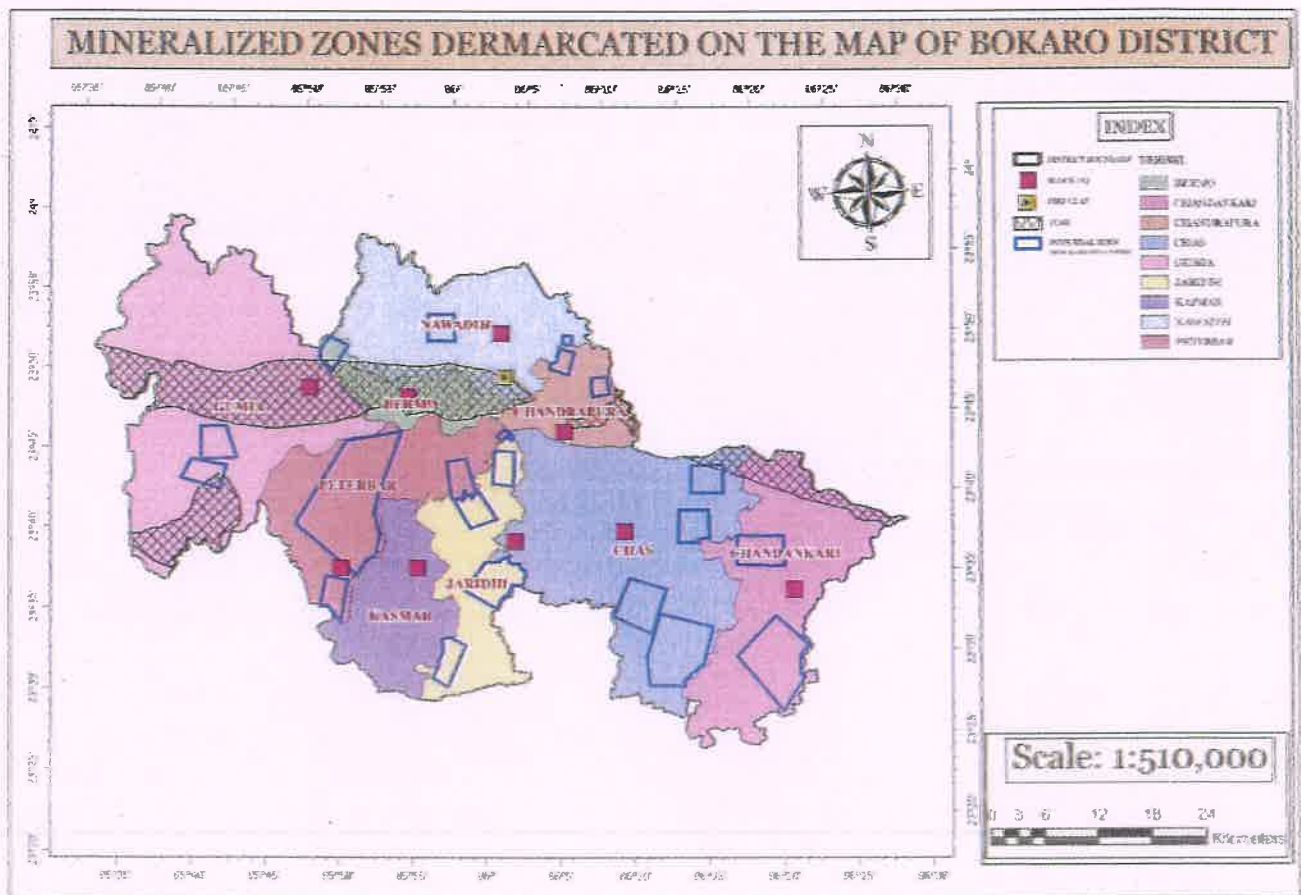


Fig. 12.1: Mineral Map of Bokaro District

(Source: JSAC, Deptt. of Mines & Geology, Govt. of Jharkhand)



13. LIST OF LETTER OF INTENT 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 (Acres) | Validity of LoI | Use (Captive/ Non-Captive) | Location of the Mining lease (Latitude & Longitude) |
|---------|---------------------|--|--|---|--|-----------------|----------------------------|---|
| 1 | Stone | M/s Santhal Enterprises of Shri Dilip Kumar Yadav S/o - Late Guru Prasad Yadav | Quarter No. - 79 Sector - 4 F Bokaro Steel City Dist. - Bokaro | 2950/Khanan, Date - 26/10/2019 | Mouza - Chainpur P.S. - Balidih Khata No. - 67, 08, 04 Plot No. - 154, 159, 162, 163 Area - 5.37 Acres | 7 | 8 | Mouza - Chainpur 23°35'56.55" to 23°35'47.31" N 86°03'22.63" to 86°03'17.62"E |
| 2 | Stone | M/s Tirupati Stone Mines of Shri Upendra Nath Manjhi S/o - Shri Binod Manjhi | Village + P.O. - Jainamore P.S. - Jaridih Dist. - Bokaro | 1737/Khanan, Date - 17/07/2020 | Mouza - Nawadih P.S. - Peterwar Khata No. - 110, 111 Plot No. - 630(P), 658(P) Area - 4.00 Acres | - | Non-Captive | Mouza - Nawadih 23°41'20.29" to 23°41'28.65" N 85°59'43.46" to 85°59'50.12" E |
| 3 | Stone | M/s Jyoti Minerals of Shri Mohan Lal Jain S/o - Late Shri Ram Jain | At C/38, City Centre Sector 4 P.S. - BTPS Dist. - Bokaro | 1743/Khanan, Date - 22/07/2020 | Mouza - Nawadih P.S. - Peterwar Khata No. - 110 Plot No. - 632, 633, 634, 635, 637, 638, 639, 641, 642, 644, 645, 647, 648, 649, 653, 654, 651 Area - 5.25 Acres | - | Non-Captive | Mouza - Nawadih 23°41'25.19" to 23°41'34.42" N 85°59'47.16" to 85°59'53.99" E |



| | | | | | | | | |
|---|-------|---|--|--------------------------------|--|---|-------------|---|
| 4 | Stone | M/s Jharkhand Stone Works of Partner 1: Shri Radha Nath Soren S/o - Late Darbari Majhi Partner 2: Shri Somar Nayak S/o - Shri Dashrath Nayak | Partner 1: Village + P.O. - Utasara P.S. - Peterwar Dist. - Bokaro Partner 2: Village + P.O. - Dantu P.S. - Kasmar Dist. - Bokaro | 4132/Khanan, Date - 26/08/2016 | Mouza - Phutkadih P.S. - Peterwar Khata No. - 01 Plot No. - 203(P) Area - 2.00 Acres | - | Non-Captive | Mouza - Phutkadih 23°41'19.4" N 85°51'26.2" E |
| 5 | Stone | M/s Savitri Enterprises of Partner 1: Shri Prakash Mishra S/o - Shri Mukesh Mishra Partner 2: Shri Duryodhan Mahto S/o - Late Kailash Mahto Partner 3: Shri Mumtaz Alam S/o - Md. Samsuddin | Partner 1: Village + P.O. - Pichhri P.S. - Peterwar Dist. - Bokaro Partner 2: Village - Jamtara P.O. - Dumri P.S. - Dumri Dist. - Giridih Partner 3: Village - Jamtara P.O. - Dumri P.S. - Dumri Dist. - Giridih | 276/Khanan, Date - 05/02/2021 | Mouza - Angwaali P.S. - Peterwar Khata No. - 180 Plot No. - 2206, 2207, 2208, 2177, 2176, 2200, 2201, 2203, 2204, 2205, 2216, 2217 Area - 6.37 Acres | - | Non-Captive | Mouza - Angwaali 23°41'33.8" to 23°41'44.6" N 86°59'57.3" to 86°00'10.35" E |



| | | | | | | | | |
|---|-------|--|---|--------------------------------|--|---|-------------|---|
| 6 | Stone | M/s Pragma Enterprises of Shri Sanjay Kumar S/o - Shri Mahanand Prasad | Village + P.O. - Barkipunnu P.S. - Mahuatand Dist. - Bokaro | 2949/Khanan, Date - 26/10/2019 | Mouza - Gangpur P.S. - Mahuatand Khata No. - 35, 07 Plot No. - 335, 337, 338 Area - 3.44 Acres | - | Non-Captive | Mouza - Gangpur 23°43'28.43" N to 23°43'33.78" N 85°41'45.03" to 85°41'50.66" E |
| 7 | Stone | M/s Koleshwari Enterprises, Part. (1) Shri Deepak Kumar, S/o Shri Rama Shankar Sharma, (2) Shri Jay Prakash Singh, S/o Prabhunath Singh, (3) Shri Nitish Kumar, S/o Kalicharan Singh (4) Shri Rajendra Singh, S/o Late Badyanath Singh | (1) Vill - Sagasot (Bindiyahi), P.O. - Ourugerua, P.S. - Hantarganj, Dist. - Chatra, (2) Vill - Kutti, P.O. - Simariya, Dist. - Chatra, (3) Vill - Sonbigha, P.O. - Tapez, P.S. + Dist. - Chatra (4) Vill + Post - Jorikala, P.S. - Vashisth Nagar, Co. Address - Sonbigha Kothi, Near S. P. Awas, College Road, Nagwa, Dist - Chatra | 1025/Khanan, Date - 05/07/2024 | Mouza - Chakuliya, P.S. - Pindrajora, Khata no. 152, Plot No. - 455(P), 599(P), 602, 603, Area - 7.00 Acre | - | Non-Captive | Mouza - Chakuliya 23°34'24.77" to 23°34'23.74" N 86°09'56.16" to 86°09'55.87" E |



| | | | | | | | | |
|----|-------|--|--|-------------------------------|--|---|-------------|---|
| 8 | Stone | M/s Nayak Construction, Part. Shri Subhash Chandra Nayak, S/o Late Bhushan Chandra Gorai | Vill + Post - Chandra, P.S. - Siyaljori, Dist. - Bokaro | 958/Khanan, Date - 21/06/2024 | Mouza - Chandipur, P.S. - Barmasiya, Khata no. 18 & 36, Plot No. - 225 to 227, 263, 264, 265 to 292, 297, Area - 4.77 Acre | - | Non-Captive | Mouza - Chandipur 23°33'13.91" to 23°33'13.96" N 86°21'18.35" to 86°21'18.22" E |
| 9 | Stone | M/s Nayak Construction, Part. Shri Subhash Chandra Nayak, S/o Late Bhushan Chandra Gorai | Vill + Post - Chandra, P.S. - Siyaljori, Dist. - Bokaro | 956/Khanan, Date - 21/06/2024 | Mouza - Suryadh, P.S. - Siyaljori, Khata no. 19, Plot No. - 662(P) to 667, 670 to 674(P), 679(P), 680(P) to 683(P), 684 to 689(P), 690(P), 691(P), 692, 694(P), 695(P), Area - 6.22 Acre | - | Non-Captive | Mouza - Suryadh 23°37'10.47" to 23°37'10.10" N 86°17'54.63" to 86°17'54.68" E |
| 10 | Stone | Jai Mata Di Enterprises, Pro. Shri Harpreet Singh Jaggi, S/o Late Narendra Singh Jaggi | Vill + Post - Jainamore, P.S. - Jaridih, Dist. - Bokaro | 944/Khanan, Date - 18/06/2024 | Mouza - Bandhdih, P.S. - Jaridih, Khata No. - 113, Plot No. - 47 & 64, Area - 6.02 Acre. | - | Non-Captive | |
| 11 | Stone | M/s S.B.M. Minerals, Part. (1) Shri Shiv Ratan Sangai, S/o Late Ram Prasad Sangai, (2) Shri Vinod Kumar, S/o Late Triloki Ram (3) Shri Manoj Kumar, S/o Shri Ram Nagina Singh | (1) Ranchi - Patna Road, Shri Ram Apartment, P.O. + P.S. - Jhumritilaya, Dist. - Kodarma (2) Post + P.S. + Dist. - Kodarma (3) Plot No. - 9, Co-operative Colony, Anand Clinic, Kalkusma, Dhanbad - 826005 | 919/Khanan, Date - 13/06/2024 | Mouza - Tengikudar P.S. - Jaridih, Khata No. 10, 15, 17, 26 & 48, Plot No. - 506(P), 508, 509(P), 511, 513(P), 515(P), 516(P), 517, 519, Area - 3.64 Acre | - | Non-Captive | |



| | | | | | | | | |
|----|-------|--|---|-------------------------------------|---|---|-------------|---|
| 12 | Stone | M/s S.B.M. Minerals, Part. (1) Shri Shiv Ratan Sangai, S/o Late Ram Prasad Sangai, (2) Shri Vinod Kumar, S/o Late Triloki Ram (3) Shri Manoj Kumar, S/o Shri Ram Nagina Singh | (1) Ranchi - Patna Road, Shri Ram Apartment, P.O. + P.S. - Jhumritilaya, Dist. - Kodarma (2) Post + P.S. + Dist. - Kodarma (3) Plot No.-9, Co- operative Colony, Anand Clinic, Kalkusma, Dhanbad - 826005 | 943/Khanan, Date - 18/06/2024 | Mouza - Tengikudar P.S. - Jaridih, Khata No. 10, 07, 15 & 26, Plot No. - 437, 440, 435, 439, 436, Area - 2.64 Acre | - | Non-Captive | Mouza - Chorgawa 23°43'43.20" to 23°43'43.46" N 85°42'02.19" to 85°42'01.67" E |
| 13 | Stone | M/s Babulal Enterprises, Pro. Shri Babulal Saw, S/o Shri Teklal Saw | Vill - Gangpur, Post - Badkipunnu, P.S. - Mahutand, Dist. Bokaro | 955/Khanan, Date - 19/06/2024 | Mouza - Chorgawa, P.S. - Mahutand, Khata No. - 15, Plot No. 510(P), Area - 1.50 Acre | - | Non-Captive | Mouza - Gangpur 23°43'28.52" to 23°43'28.48" N 85°41'47.50" to 85°41'47.06" E |
| 14 | Stone | Maa Kunti Enterprises, Pro Shri Santosh Kumar Saw, S/o Sukhdeo Saw | Vill - Amlidaru, Post - Kariyadpur, P.S. - Daru, Dist - Hazaribagh | 957/Khanan, Date - 21/06/2024 | Mouza - Gangpur, P.S. - Mahutand, Khata No. - 07, Plot No. 323(P), 324, 326(P), Area - 5.07 Acre | - | Non-Captive | Mouza - Etke 23°35'32.90" to 23°35'36.87" N 85°50'32.84" to 85°50'36.81" E |
| 15 | Stone | H. G. Infra Engineering Ltd. Authorized Person- Shri Sujit Prakash, S/o Shri Shankar Dayal, | Corporate Office - 3rd Floor, Sheel Mohar Plaza, A-1, Tilak Marg, C-Scheme, Jaipur, Raj. - 302001 | 1026/Khanan, Date 05/07/2024 | Mouza - Etke, P.S. Petarwar, Khata No. 06, Plot No. 142(P), Area - 1.97 Acre | - | Non-Captive | |



| | | | | | | | | |
|----|-------|--|--|---|---|---|-------------|---|
| 16 | Stone | <p>Pushprektha Stone Part. (1) Shri Aditya Nath Rai, S/o Jagdeo Rai</p> <p>(2) Shri Vivek Rungta, S/o Surendra Kumar Rungta, (3) Shri Bhudeo Chandra Mahatha, S/o Kishan Lal Mahatha</p> | <p>(1) Vill + Post - Bhojudih, P.S. - Chandankiyari, Bokaro. (2) At - Kola Kushma, Lal Bangla, Post - K.G. Ashram, P.S. - Govindpur, Dhanbad, (3) Vill - Rangatand, P.O. Bhojudih, P.S. - Chandankiyari, Boakro.</p> | <p>1432/Khanan, Date 28/09/2024</p> | <p>Mouza - Gopalpur, P.S. Chas(Mu.), Khata No. 03, 94, 95, 125, Plot No. 147 to 153, 156, 157, 190, 196 to 203, 155, 179, 180, 182, 183, 187, 188, 194, 226, 229, 181, 191, 184 to 186, 192, 193, 225, 227, Area - 5.97 Acre.</p> | - | Non-Captive | <p>Mouza - Etke 23°41'33.60" to 23°41'33.54" N 86°15'12.21" to 86°15'12.43" E</p> |
|----|-------|--|--|---|---|---|-------------|---|



14. TOTAL MINERAL RESERVE AVAILABLE IN THE DISTRICT

At present, based on existing running mining leases and available mining plans (27 registered mining leases) a total of 12292708 m³/33730314 Tonnes of mineable reserve of Stone are found in the Bokaro district. There are 19 nos. of potential Stone deposit have been identified in Bokaro district. Based on reconnaissance survey, it has been also assessed that about 6070000 m³/16389000 Tonnes of mineable reserve of Stone deposit can be mined to meet the demand-supply gap of district.

| Sl. No. | Existing/Working Mining Lease Details | Mineable Reserve | |
|---------|--|----------------------|-------------|
| | | (in m ³) | (in Tonnes) |
| 1 | Mouza – Chainpur | 168162 | 454037 |
| | P.S. – Balidih | | |
| | Circle - Chas | | |
| | Khata No. – 02 | | |
| | Plot No. – 947(P) | | |
| | Area - 5.57 Acres/2.25 Ha. | | |
| 2 | Mouza – Pailadih | 233775 | 631193 |
| | P.S. – Chas(M) | | |
| | Circle – Chas | | |
| | Khata No. – 40 | | |
| | Plot No. – 106, 108 & 109(P) | | |
| | Area - 3.00 Acres/1.22 Ha. | | |
| 3 | Mouza – Lalpur | 54000 | 145800 |
| | Circle | | |
| | P.S. – Chandankiyari | | |
| | Plot No. – 254 | | |
| | Plot No. - 1479 | | |
| | Area - 0.97 Acres/0.39 Ha. | | |
| 4 | Mouza – Suryodih | 248711 | 671519 |
| | P.S. – Siyaljori | | |
| | Circle – Chandankiyari | | |
| | Khata No. – 19 | | |
| | Plot No. – 655(P), 691, 694(P), 695(P) | | |
| | Area - 7.02 Acres/2.84 Ha. | | |
| 5 | Mouza – Taranga | 114480 | 309096 |
| | Circle – Chandrapura | | |
| | P.S. – Chandrapura | | |
| | Khata No. – 101 | | |
| | Plot No. – 1220(P) | | |



| | | | |
|--------------|---|---------------|----------------|
| | Area - 3.50 Acres/1.42Ha. | | |
| 6 | Mouza – Telo Circle + P.S. – Chandrapura Khata No. – 159, 81, 50, 149 Plot No. – 1316, 1317, 1322, 1324(P), 1319, 1320, 1321 Area - 2.505 Acres/1.01 Ha. | 73360 | 198072 |
| 7 | Mouza – Barai Circle + P.S. – Nawadih Khata No. – 31 Plot No. - 736 Area - 0.76 Acres/0.31 Ha. | 20545 | 55470 |
| 8 | Mouza – Partanr Circle – Chas P.S. – Siyaljori Khata No. – 86 Plot No. – 1176(P) Area - 5.000 Acres/2.02 Ha. | 46631 | 125905 |
| TOTAL | | 959664 | 2591092 |

| Sl. No. | 'Loi Issued' Mining Lease Details | Mineable Reserve | |
|---------|--|----------------------|-------------|
| | | (in m ³) | (in Tonnes) |
| 1 | Mouza – Balrampur P.S. – Jaridih Khata No. – 41 Plot No. – 37 Area – 1.85 Acres | 55166 | 148949 |
| 2 | Mouza – Utasara P.S. – Peterwar Khata No. – 50 Plot No. – 1115, 1116, 1117, 1118 Area – 4.11 Acres | 197029 | 531978 |
| 3 | Mouza – Chainpur P.S. – Balidih Khata No. – 67, 08, 04 Plot No. – 154, 159, 162, 163 Area – 5.37 Acres | 565018 | 1525549 |



| | | | |
|-------------------|---|--------|---------|
| 4 | Mouza – Parasbani | 330449 | 892213 |
| | P.S. – Nawadih | | |
| | Khata No. – 10 & 08 | | |
| | Plot No. – 2638 & 2639(P) | | |
| | Area – 4.02 Acres | | |
| 5 | Mouza – Phutkadih | 96328 | 260086 |
| | P.S. – Peterwar | | |
| | Khata No. – 25 | | |
| | Plot No. – 459 | | |
| | Area – 3.26 Acres | | |
| 6 | Mouza – Girdhartanr | 888889 | 2400000 |
| | P.S. – Pindrajora | | |
| | Khata No. – 1 & 18 | | |
| | New Khata No. – 1 & 22 | | |
| | Plot No. – 28(P), 23, 24, 25, 26, 27(P) | | |
| Area – 7.30 Acres | | | |
| 7 | Mouza – Bharajori | 58400 | 157680 |
| | P.S. – Chandankiyari | | |
| | Khata No. – 339 | | |
| | Plot No. - 1946(P) | | |
| | Area – 1.50 Acres | | |
| 8 | Mouza – Armo | 22234 | 60032 |
| | P.S. – BTPS | | |
| | Khata No. – 12 | | |
| | Plot No. - 54 | | |
| | Area – 1.52 Acres | | |
| 9 | Mouza – Nawadih | 66907 | 180650 |
| | P.S. – Peterwar | | |
| | Khata No. – 110, 111 | | |
| | Plot No. – 630(P), 658(P) | | |
| | Area – 4.00 Acres | | |
| 10 | Mouza – Keliyadabar | 34277 | 632548 |
| | P.S. – Pindrajora | | |
| | Khata No. – 108 | | |
| | Plot No. – 1746 | | |
| | Area – 4.46 Acres | | |



| | | | |
|----|--|--------|---------|
| 11 | Mouza – Nawadih | 83403 | 225187 |
| | P.S. – Peterwar | | |
| | Khata No. – 110 | | |
| | Plot No. – 632, 633, 634, 635, 637, 638, 639, 641, 642, 644, 645, 647, 648, 649, 653, 654, 651 | | |
| | Area – 5.25 Acres | | |
| 12 | Mouza – Pichhri | 63690 | 171965 |
| | P.S. – Peterwar | | |
| | Khata No. – 81 | | |
| | Plot No. – 3071(P), 3076 | | |
| | Area – 2.24 Acres | | |
| 13 | Mouza – Khuntri | 281977 | 761337 |
| | P.S. – Jaridih | | |
| | Khata No. – 18, Plot No. – 226(P) | | |
| | Area – 5.00 Acres | | |
| 14 | Mouza – Phutkadih | 65818 | 177709 |
| | P.S. – Peterwar | | |
| | Khata No. – 01 | | |
| | Plot No. – 203(P) | | |
| | Area – 2.00 Acres | | |
| 15 | Mouza – Angwaali | 456385 | 1232239 |
| | P.S. – Peterwar | | |
| | Khata No. – 180 | | |
| | Plot No. – 2206, 2207, 2208, 2177, 2176, 2200, 2201, 2203, 2204, 2205, 2216, 2217 | | |
| | Area – 6.37 Acres | | |
| 16 | Mouza – Gangpur | 147505 | 398263 |
| | P.S. – Mahuatand | | |
| | Khata No. – 35, 07 | | |
| | Plot No. – 335, 337, 338 | | |
| | Area – 3.44 Acres | | |
| 17 | Mouza – Khuntri | 98314 | 265448 |
| | P.S. – Jaridih | | |
| | Khata No. – 13 | | |
| | Plot No. – 196(P) | | |
| | Area – 2.50 Acres | | |



| | | | |
|--------------|--|-----------------|-----------------|
| 18 | Mouza – Tantri | 322905 | 871844 |
| | Tola – Nutandih | | |
| | P.S. – Jaridih | | |
| | Khata No. – 145, 147 & 148 | | |
| | Plot No. – 22(145), 3, 5, 6(P), 8(P), 20(P), (147) & 19(P) (148) | | |
| | Area – 4.21 Acres | | |
| 19 | Mouza – Lakhipur | 7498350 | 20245545 |
| | P.S. – Chandankiyari | | |
| | Khata No. – 35 & 36 | | |
| | Plot No. – 55, 56, 57, 60, 61, 41 to 47, 50, 62 to 69 & 73 | | |
| | | | |
| TOTAL | | 11333044 | 31139222 |

| Sl. No. | Identified Potential Stone Deposit Details | Mineable Reserve | |
|---------|--|----------------------|-------------|
| | | (in m ³) | (in Tonnes) |
| 1 | Mouza – Taranga | 230000 | 621000 |
| | P.S. – Chandrapura | | |
| | Khata No. – 02 | | |
| | Plot No. – 1425, 1427, 1429 | | |
| | Area – 2.85 Acres/1.15 Ha. | | |
| 2 | Mouza – Patki | 290000 | 783000 |
| | P.S. – Peterwar | | |
| | Khata No. – 24 | | |
| | Plot No. – 96 | | |
| | Area – 3.58 Acres/1.45 Ha. | | |
| 3 | Mouza – Bogla | 124000 | 334800 |
| | P.S. – Chandankiyari | | |
| | Khata No. – 99 | | |
| | Plot No. – 3676, 3735(P), 3734(P) | | |
| | Area – 1.535 Acres/0.62 Ha. | | |
| 4 | Mouza – Chanpi | 274000 | 739800 |
| | P.S. – Peterwar | | |
| | Khata No. – 65, 49 | | |
| | Plot No. – 2528, 2529 | | |
| | Area – 3.40 Acres/1.37 Ha. | | |



| | | | |
|----|---|--------|---------|
| 5 | Mouza – Amainagar | 270000 | 729000 |
| | P.S. – Chandankiyari | | |
| | Khata No. – 112 | | |
| | Plot No. – 1505(P) | | |
| | Area – 3.33 Acres/1.35 Ha. | | |
| 6 | Mouza – Khuntri | 372000 | 1004400 |
| | P.S. – Jaridih | | |
| | Khata No. – 66 & 24 | | |
| | Plot No. – 2849, 2850 (P), 2853, 2854, 2856, 2874 | | |
| | Area – 4.60 Acres/1.86 Ha. | | |
| 7 | Mouza – Chainpur | 424000 | 1144800 |
| | P.S. – Balidih | | |
| | Khata No. – 02 | | |
| | Plot No. - 943 | | |
| | Area – 5.24 Acres/2.12 Ha. | | |
| 8 | Mouza – Belunja | 414000 | 1117800 |
| | P.S. – Chas(M) | | |
| | Khata No. – 283, 101 | | |
| | Plot No. – 830, 831, 832, 834, 835, 843, 844, 845, 846, 809, 836 | | |
| | Area – 5.13 Acres/2.07 Ha. | | |
| 9 | Mouza – Tantri | 366000 | 988200 |
| | P.S. – Jaridih | | |
| | Khata No. – 112 & 129 | | |
| | Plot No. – 1345 & 1373 | | |
| | Area – 4.53 Acres/1.83 Ha. | | |
| 10 | Mouza – Utasara | 250000 | 675000 |
| | P.S. – Peterwar | | |
| | Khata No. – 27 | | |
| | Plot No. – 1333, 1334, 1335, 1336, 1337 | | |
| | Area – 3.10 Acres/1.25 Ha. | | |
| 11 | Mouza – Palkiri | 354000 | 955800 |
| | Thana No. - 241 | | |
| | Thana – Chandankiyari | | |
| | Khata No. – 07 & 114 | | |



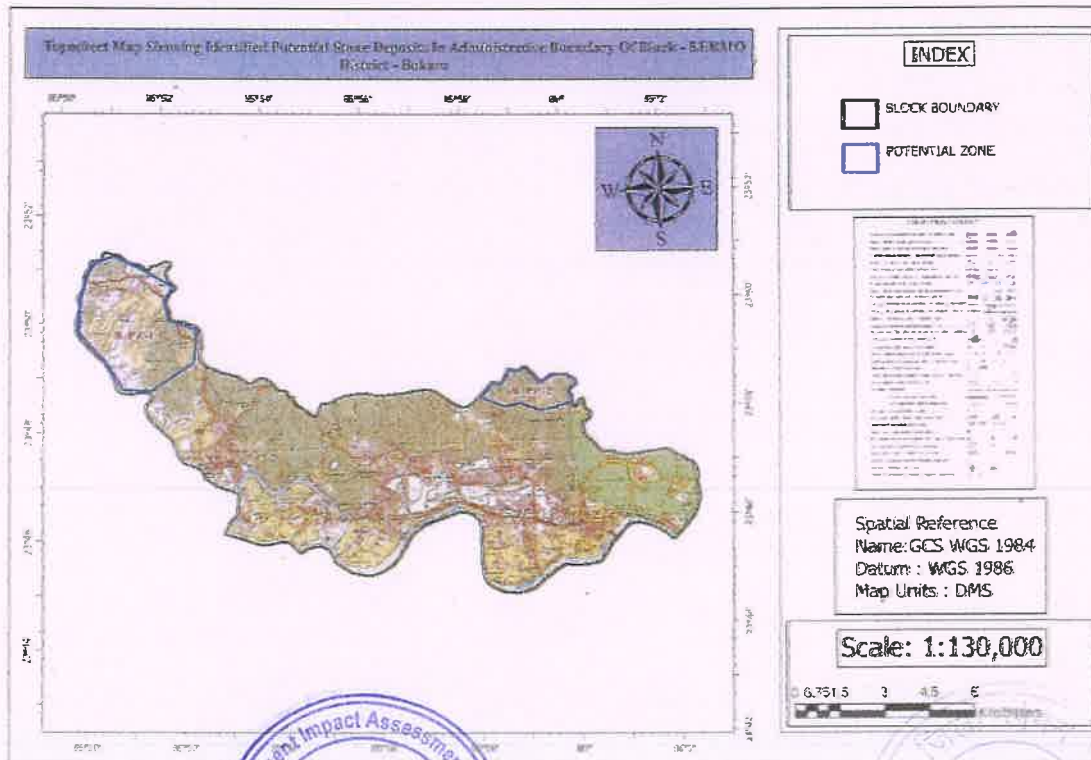
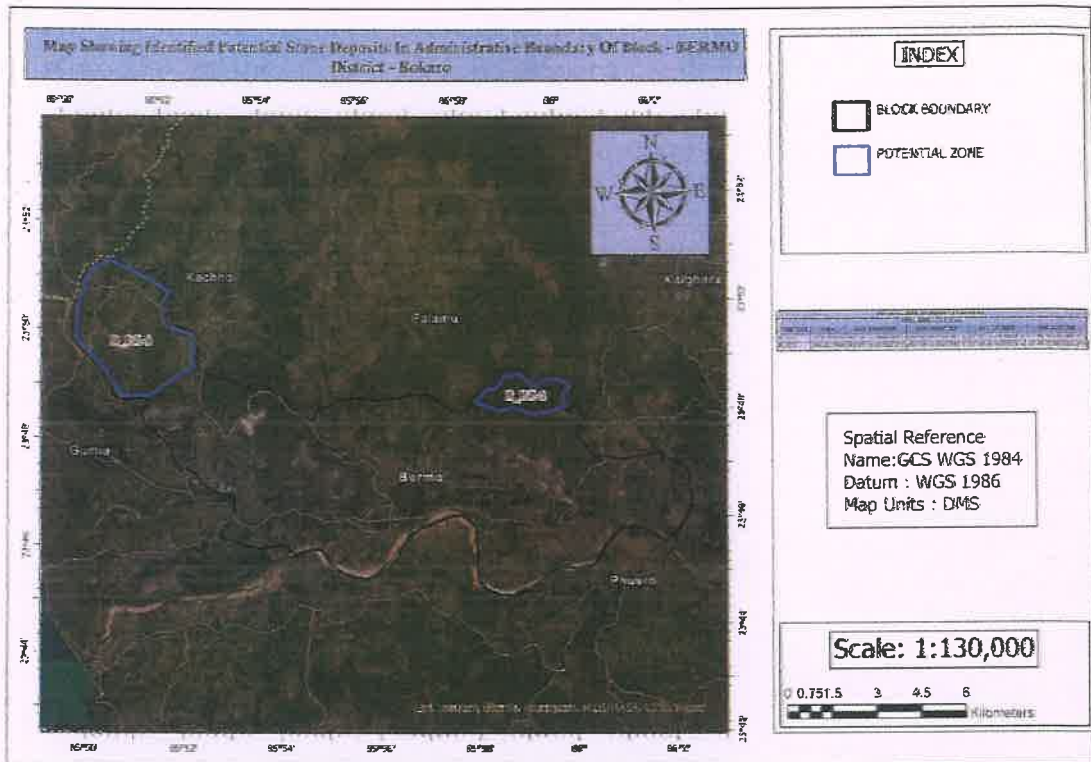
| | | | |
|----|--|--------|---------|
| | Plot No. - 2564, 2565, 2567, 2572, 2573, 2576, 2577, 2566, 2570 | | |
| | Area - 4.38 Acres/1.77 Ha. | | |
| 12 | Mouza - Girdhartand Thana No. - 112 Thana - Pindrajora Dist. - Bokaro Khata No. - 01, 18, 22 Plot No. - 28, 27, 85, 86 Area - 8.46 Acres/3.42 Ha. | 684000 | 1846800 |
| 13 | Mouza - Suryadih Thana No. - 197 Thana - Siyaljori Dist. - Bokaro Khata No. - 615, 616, 617, 653, 654, 655, 657, 658, 675, 676, 677, 678 & 679 Area - 4.14 Acres/1.67 Ha. | 334000 | 901800 |
| 14 | Mouza - Chandipur Thana No. - 266 Thana - Barmasia, Chandankiyari Dist. - Bokaro Khata No. - 18 & 36 Plot No. - 225, 226, 227, 263, 264(P), 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 297(P). Area - 4.77 Acres/1.93 Ha. | 386000 | 1042200 |
| 15 | Village - Nawadih Thana No. - 52 Thana - Peterwar Dist. - Bokaro Khata No. - 103, 123, 122, 116 Plot No. - 213, 214, 217, 218, 220 Area - 0.594 Acres/0.24 Ha. | 48000 | 129600 |
| 16 | Mouza - Girdhartanr Thana No. - 112 Thana - Pindrajora Dist. - Bokaro | 232000 | 626400 |



| | | | |
|--------------|---|----------------|-----------------|
| | Khata No. – 01 | | |
| | Plot No. – 28 | | |
| | Area – 2.86 Acres/1.16 Ha. | | |
| | | | |
| 17 | Mouza – Girdhartanr | | |
| | Thana No. – 112 | | |
| | Thana – Pindrajora | | |
| | Dist. – Bokaro | | |
| | Khata No. – 18 | | |
| | Plot No. – 19(P), 20(P), 21, 22, 23, 24, 25, 26, 27(P) | | |
| | Area – 5.00 Acres/2.02 Ha. | 404000 | 1090800 |
| TOTAL | | | |
| 18 | Mouza – Girdhartanr | | |
| | Thana No. – 112 | | |
| | Thana – Pindrajora | | |
| | Dist. – Bokaro | | |
| | Khata No. – 18 & 1 | | |
| | Plot No. – 27, 28 | | |
| | Area – 4.33 Acres/1.75 Ha. | 350000 | 945000 |
| 19 | Mouza – Bagiari | | |
| | Thana No. – 100 | | |
| | Thana – Kasmar | | |
| | Dist. – Bokaro | | |
| | Khata No. – 207, 18, 173 | | |
| | Plot No. – 1956, 1954, 1997, 1999, 2003, 2004, 2005, 2000, 1998, 1957 | | |
| | Area – 3.26 Acres/1.32 Ha. | 264000 | 712800 |
| TOTAL | | 6070000 | 16389000 |

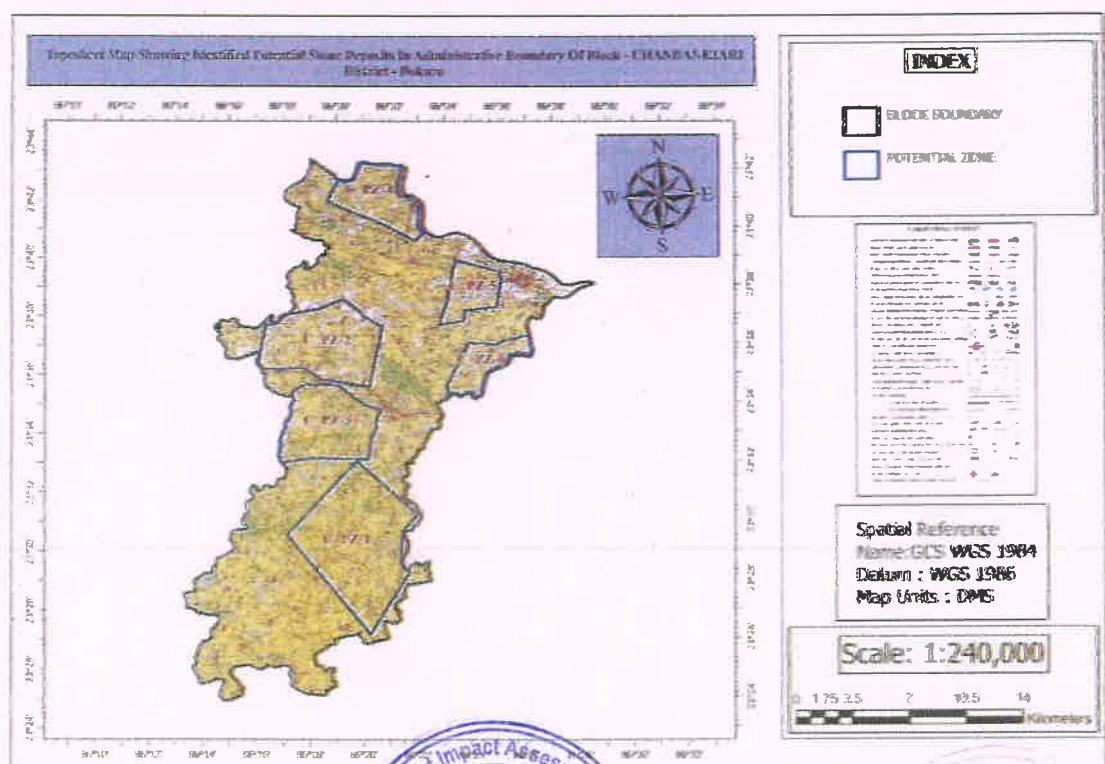
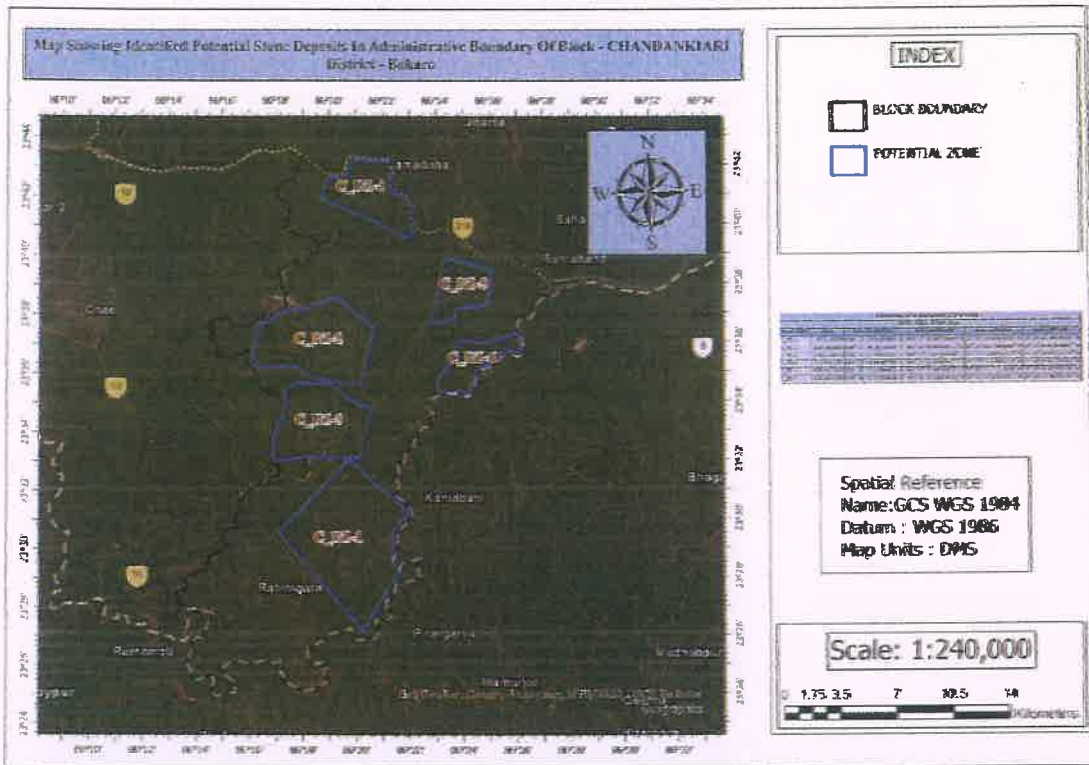


BLOCK WISE IDENTIFIED POTENTIAL ZONES



| |
|--------------|
| BERMO |
| BURGARA |
| ARMO |
| LUKUBAD |
| KARA |
| EMLO |
| GARNKE |



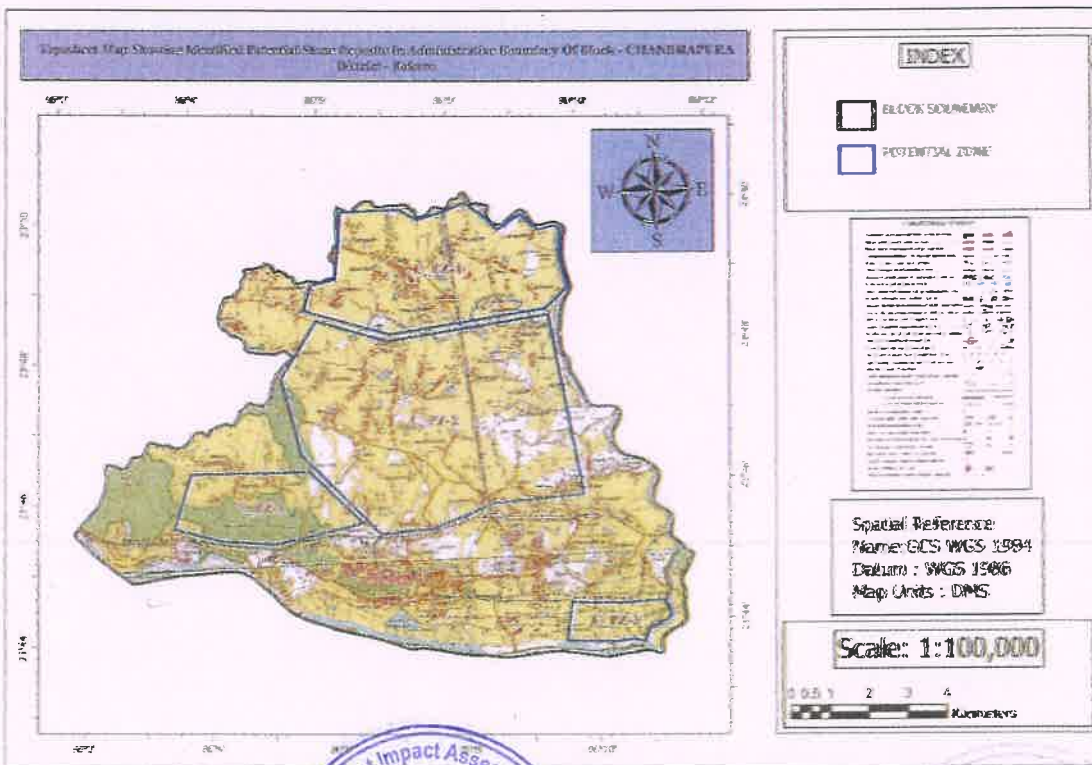
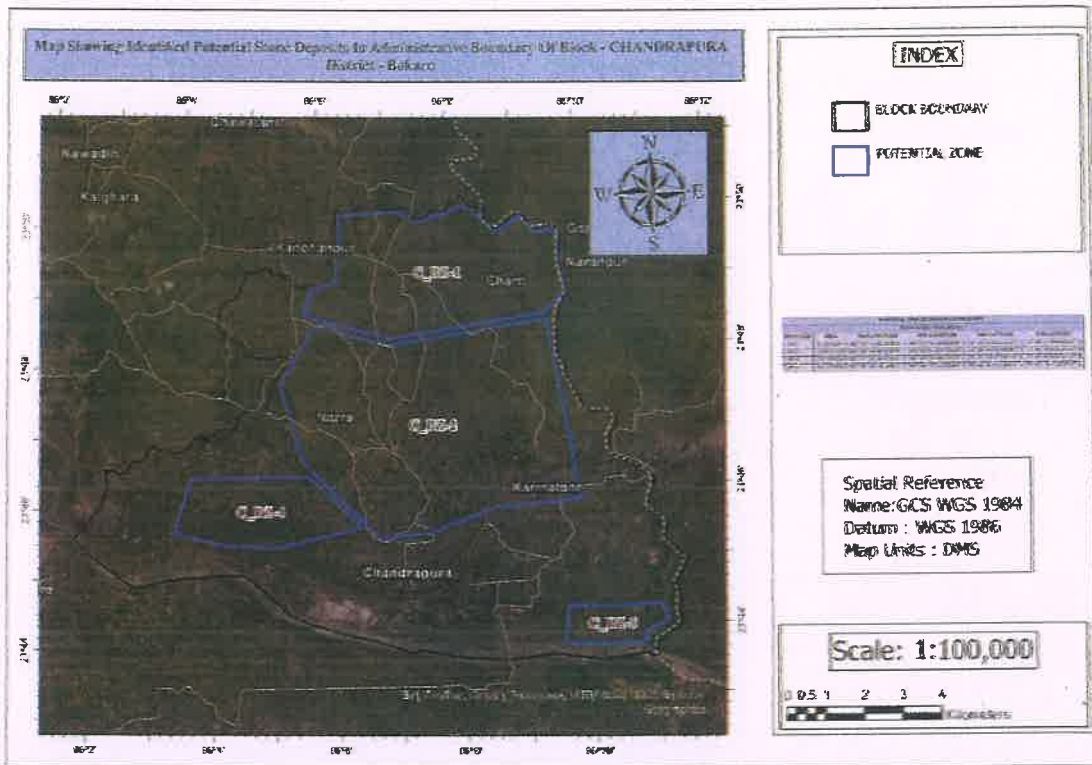


Approved
 State Level Environment Impact Assessment Authority
 Jharkhand, Ranchi

State Level Environment Impact Assessment Authority
 Jharkhand, Ranchi

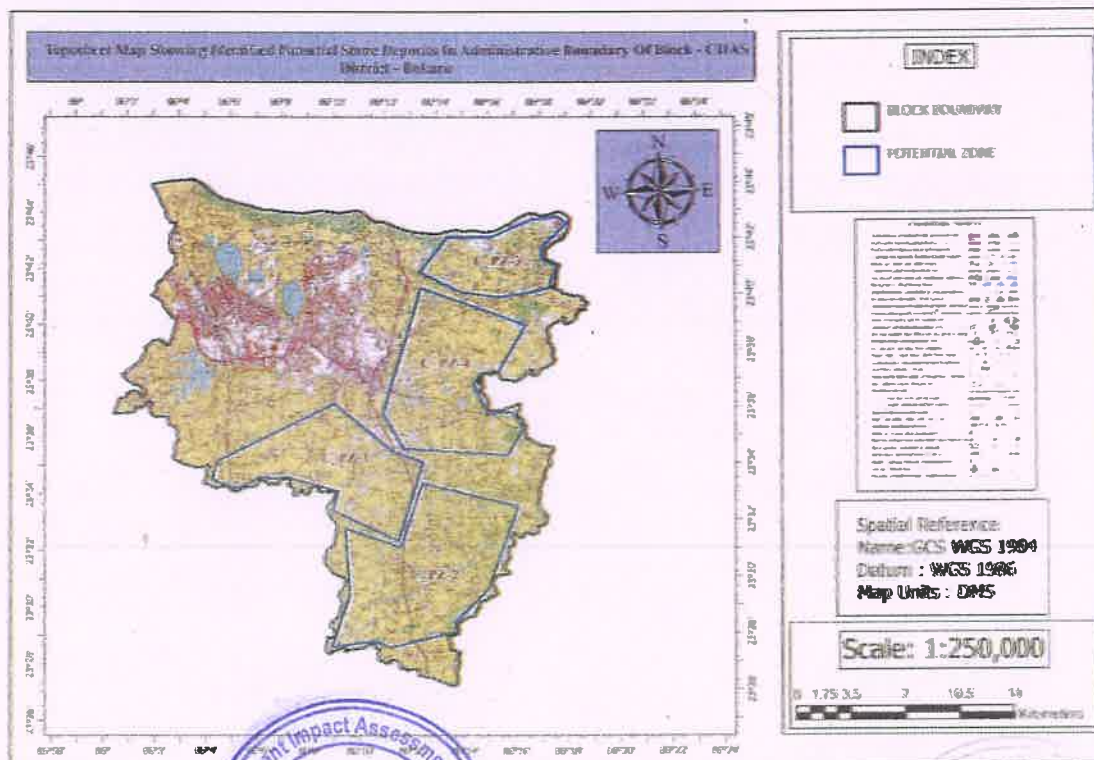
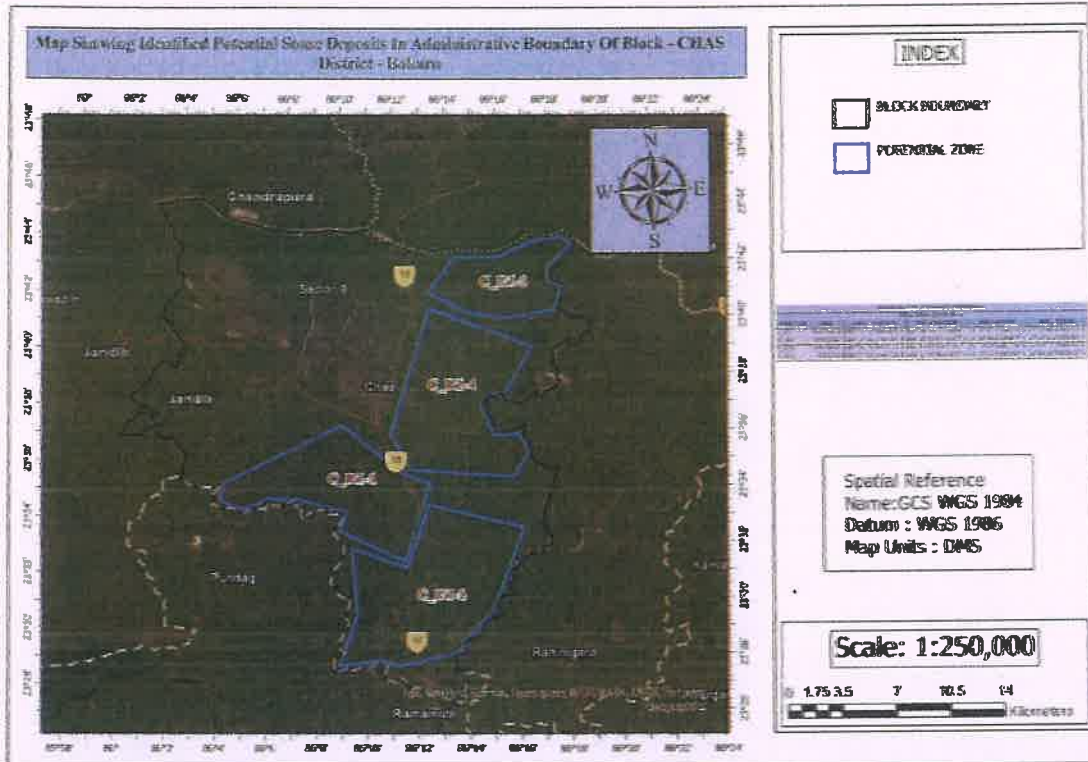
| CHANDANKIARI | | | | | |
|--------------|-------------|-------------|--------------|------------|--------------|
| DIBORDA | DEBGRAM | BINDABANPUR | CHAKPENDRA | KANCHANPUR | CHANDANKIARI |
| PABRATANR | AMLABAD(CT) | SAHARJURI | JHABRA | TEKORA | AMAINAGAR |
| PARBATPUR | KARADI | SUTRIBERA | CHAKPARBAD | MARRA | BANSHTORA |
| SILPHOR | BANGARIA | KUMIRDOBA | GORIGRAM | BHUSKI | KAURIA |
| FATEPUR | UDALBANI | NUNIADI | MANPUR | LAGHLA | BHARAJURI |
| TALGARIA | SURJYADI | BARISHABAD | JHARNA | SIMULIA | PALKUDRI |
| BIRAJDI | SABNA | BODMA | GUNDLIBHITHA | GURRI | GAMARYA |
| NAWADI | CHANDRA | NADIHA | CHHATATANR | RANGAMETYA | MAZLOORUBI |
| TILATANR | BARAJOR | CHAKPENDRA | NARKARAI | BARKAMA | LAKSHIPUR |
| DARIDA | BANSHARA | CHIRDA | KHERABERA | MUKTAPUR | BORYADI |
| | JHALBARDA | BARDA | MOHANPUR | RANGRAGARA | BARAMESYA |





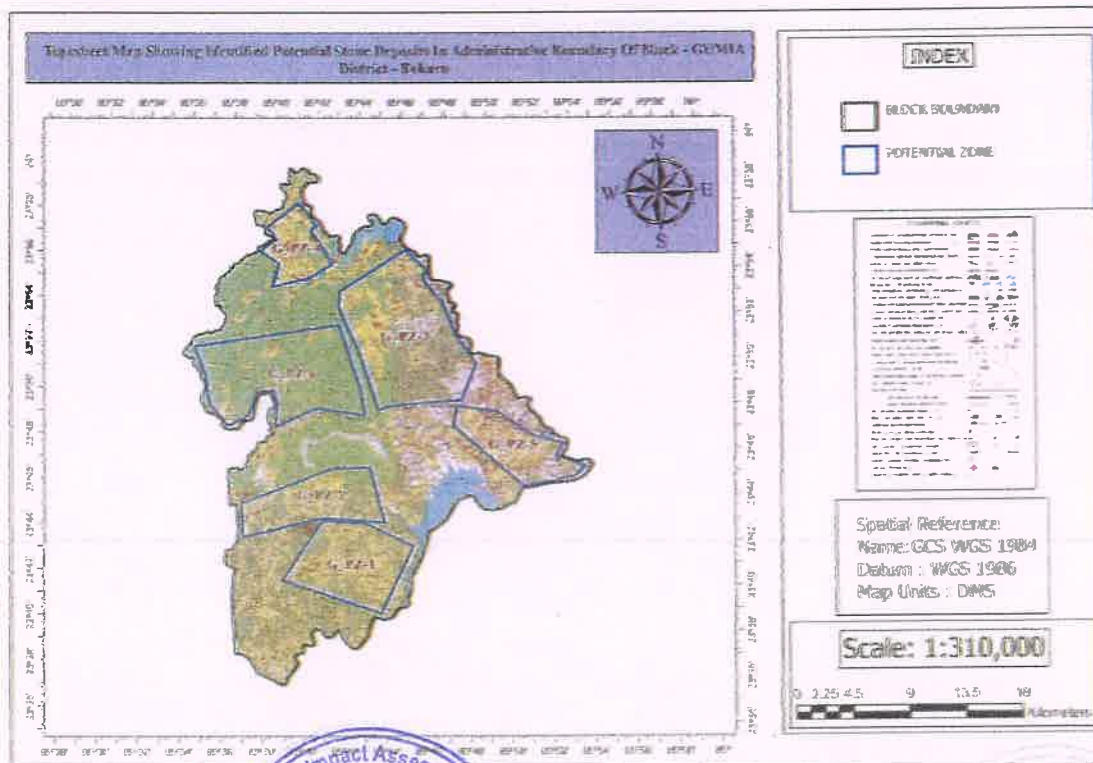
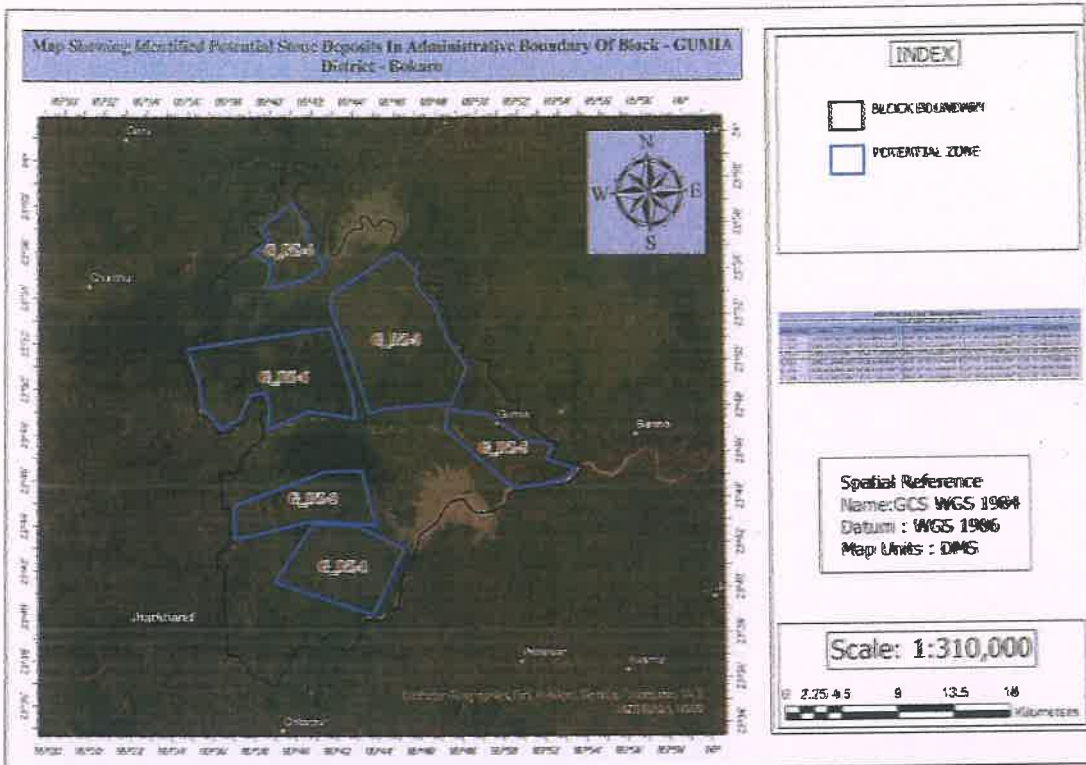
| CHANDRAPURA | | |
|--------------------|-------------|--------------------------|
| TELO | KARIDUGEDHO | GHATIARI |
| CHARRI | CHUTUWAI | CHIRUDIH |
| KHALCHO | SIJHUA | ALARGA |
| PAPLO | DUGDA | FATEHPUR |
| JUNORI | KARMATANR | CHANDRAPURA |
| TARANGA | NARRA | TARANARI OR MADHUBANI |
| KURUMBA | TARMI | |





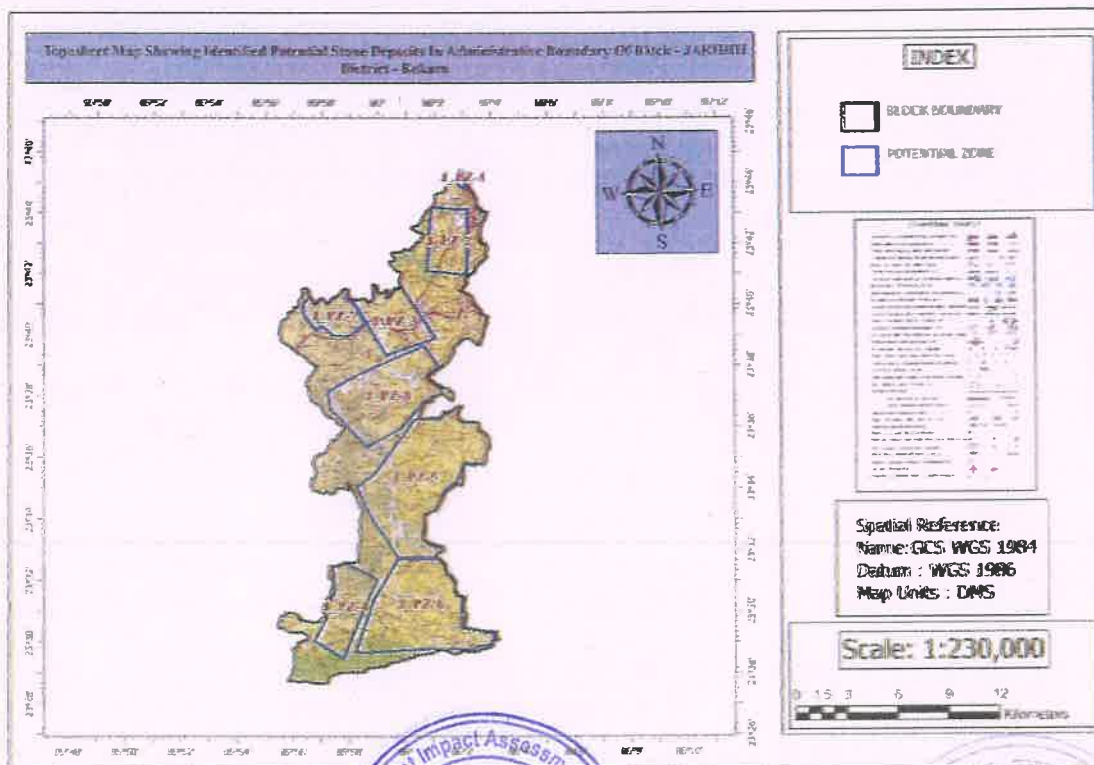
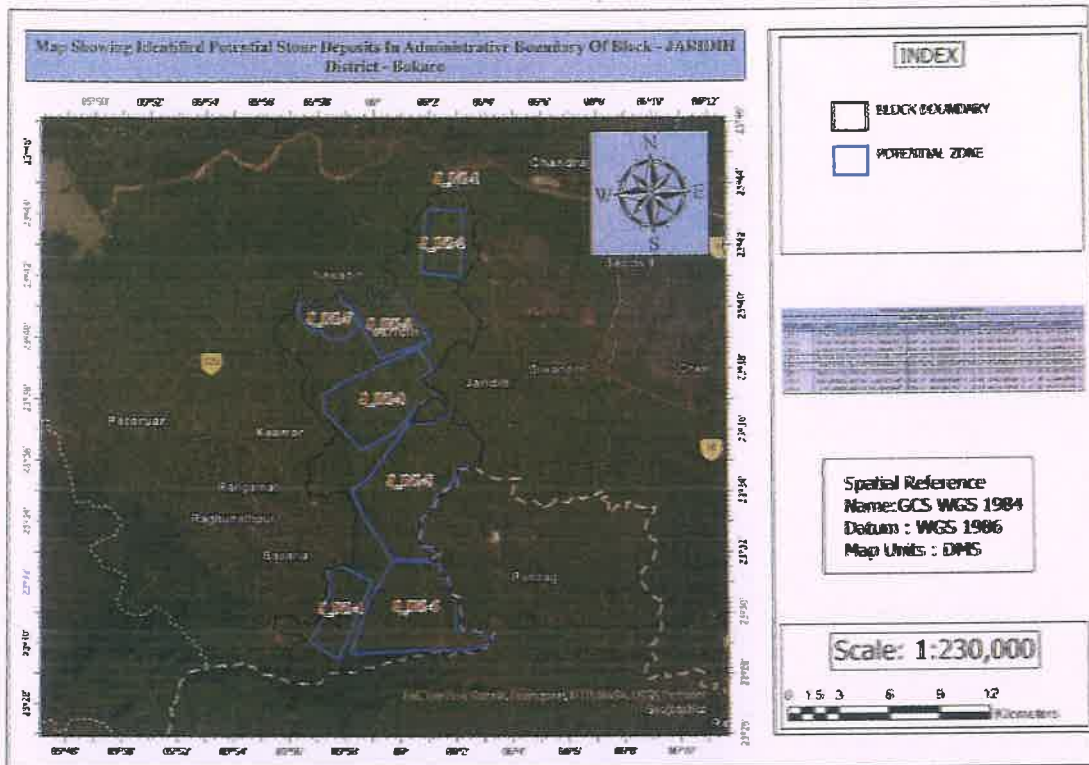
| CHAS | | | | |
|------------------|-----------------|----------------|-----------------|------------------------------|
| KUMRI | DUMARDA | BANSA | KUNARPUR | DURGAPUR |
| SIALGAJRA | BIJULIA | BADHADI | DHABNI | KUSHMA |
| BAMUNDANRIK A | TIARA | BODRO | RAHERGORA | RAGHUNATH CHAK |
| BHUNIYADARIKA | TUGHARI | ALKUSA | CHAS | ANDHARTAIRYA |
| GOPALPUR | DABKA | DHANDABA R | MADHURIA | DUDHIGAJAR |
| CHIKSIA | BELUT | BANDHDI | KHAMARBAND I | SHILPHOR |
| BANDHPUR | BELANJA | SINDURPETI | MAMAR KUDAR | TUPRA |
| ADAMDI | PAILADI | HUTU PATHAR | KOLBENDI | TURIDI |
| NISHCHINTPUR | USARDI | PARTANR | GOPIDI | KUMARDAGA |
| SUNTA | KURMA | BASANTPUR | JANAMDI | CHOPATANR |
| GHATIALI | KASHIJHARI A | AMADI | BERANI | BISHWANATHDI |
| AMDIHA | ULGARA | SIMALAYA | SARDAHA | BARYADI |
| NARAYANPUR | KANRRA | KHIRABERA | BARMASIA | KELYADABAR |
| BAHADURPUR | KATHWARI | PAIDADI | CHHANRGOI | BHANRRO |
| SONABAD | GOPALPUR | PADUDI | JAYTARA | KURA ALIAS KURADI |
| CHITAMI | KENDADI | TELMATIYA | POKHNNA | DEWANGANJ |
| CHAKALIA | PERAJERA | BARADI | SIJHUA | SANTALDI ALIAS CHAK MOHA |
| GIRDHARTANR | ABRA | KHUNTADI | ASHUDI | JOGIDI ALIAS RAGHUNATHDI |
| | | | | CHUATANR ALIAS KAPITANPUR |





| GUMIA | | | | |
|----------------------|---------------------|------------|------------|-----------------|
| HURDAG | KATWARI | KARI KALAN | CHUTE | BAGHRAIYA |
| HURLUNG | MANGRO | KARI KHURD | DANRA | MORHA |
| NARKANDI | TUSKO | BAIGANKERI | SAWAI | RF |
| CHIPRI | CHATRO CHATI | KURKNALO | BANDIHA | RF |
| TITHI | CHILGA | TISRI | PURNAPANI | HALWE |
| GURUDIH | BARKICHIDRI | NAWDANDA | JAMNIJARA | DANEA |
| CHHOTKI SIDHABARA | KARMA | KHARNA | JUMRAPAHAR | RAJDERWA |
| BARKI SIDHABARA | DHUDHMO | LODHI | ROHAWAN | TUIYO |
| KHOKHANDO | KARMA | PEJUWA | PACHMO | RF |
| BARTUA | OCHO | SARAM | LAWALANG | GANGPUR |
| CHITU | PALTHARI GURUDIH | PALONI | MURPA | KERI |
| BANCHATRA | SAWANG | BANDIH | TIRLA | KHIRABERA |
| GOSE | HAZARI | KATHARA | CHAGRI | AIYAR |
| DUMRI | HKUDGARA | JHIRKI | RANGAMATI | TIKAHARA |
| UDA | GUMIA | SEHEDA | NARAN | BARKI PUNU |
| SIARI | DHENDHE | KHAKHANDA | TILAIYA | MAHUATANR |
| DARIDAG | LUGUPAHAR | CHUGNU | CHORGANWA | CHOTAKI PUNU |
| JHUMCHI | HASIR | KUNDA | AMBADIH | PALU |
| HARADGARA | | | | |



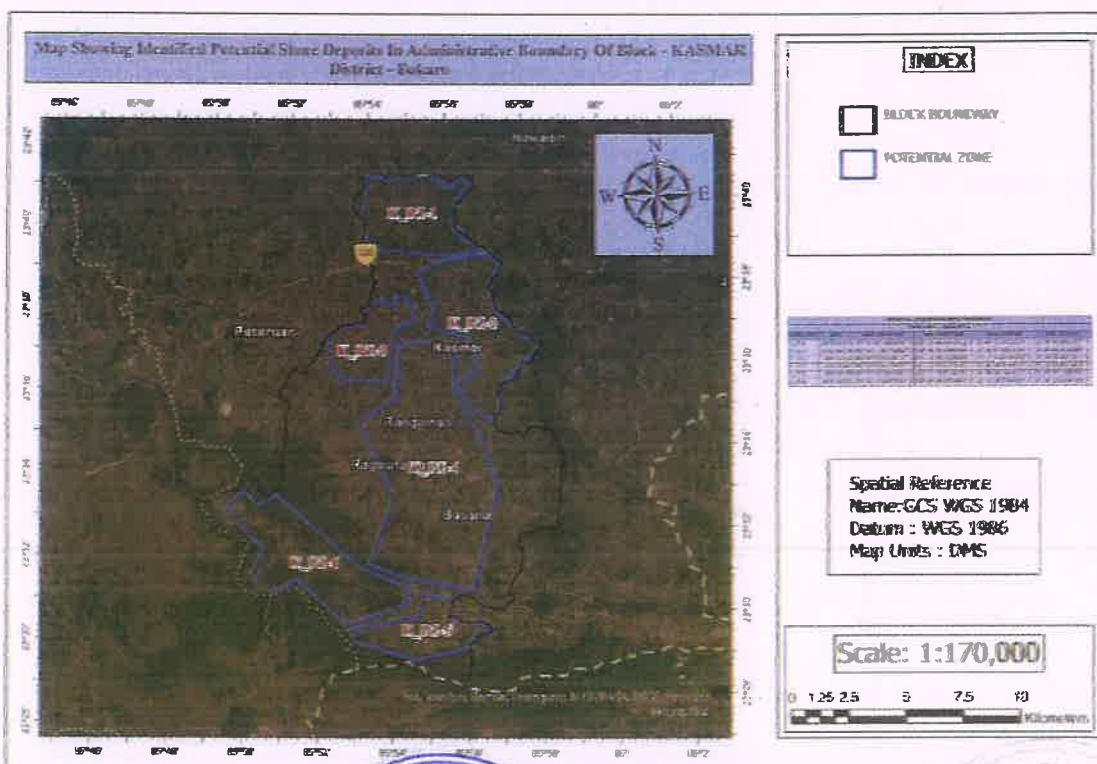
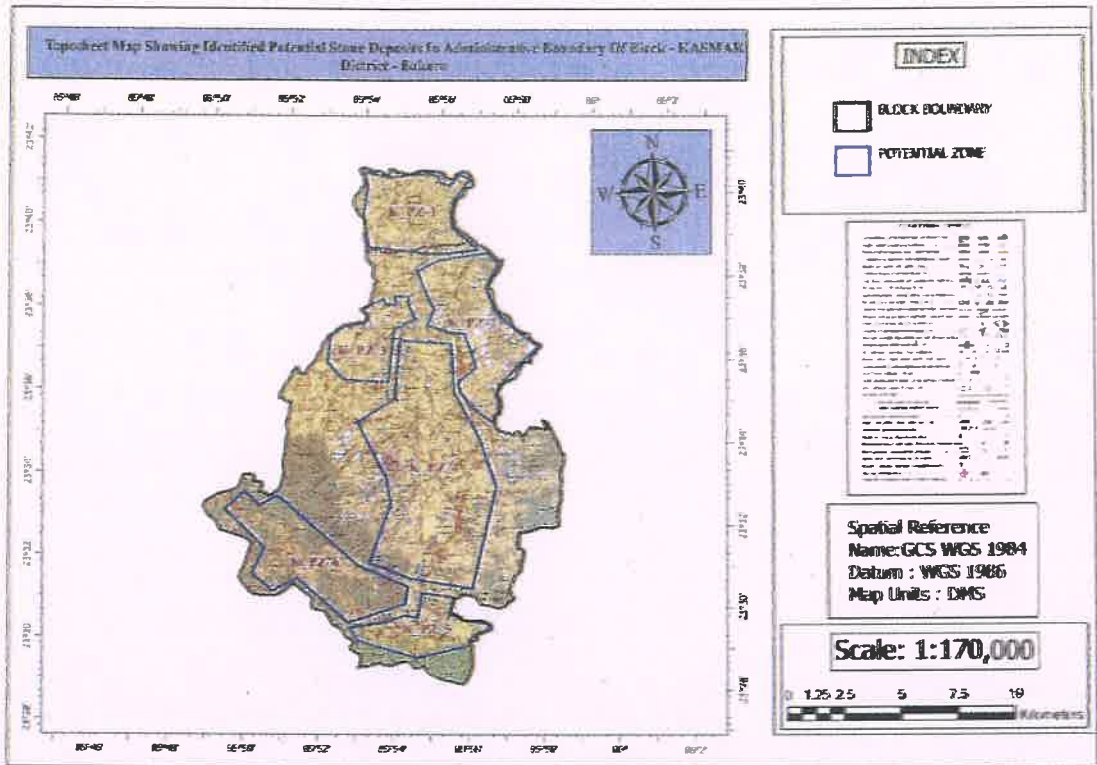


Approved
State Level Environment Impact Assessment Authority
Jharkhand, Ranchi

Official stamp and signature of the State Level Environment Impact Assessment Authority, Jharkhand, Ranchi.

| JARIDIH | | | | |
|------------------|-------------|-----------|------------------|------------|
| TANTRI | BARADIH | BARAMASIA | BELDIH | JOGIDIH |
| THAKURTANR | GOPINATHPUR | GANGJORI | HANRHURO | BHASKI |
| KHUTRI | BANCHAS | PATHRIA | PENGIKUDAR | LIPU |
| JENA (CT) | GANJHANDI | BIRSARAM | HARIDIH HARDI | RORIA |
| BANDH DIH(CT) | ARALDIH | CHILGORA | SARAIBINDA | Bahadurpur |
| BHARU | PIRO | GARKE | ARAJU | |
| BAKASPURA | GAICHHANA | GOPALPUR | KAMLAPUR | |
| KALYANPUR | BALRAMPUR | SUNDRO | ARA SARAM | |

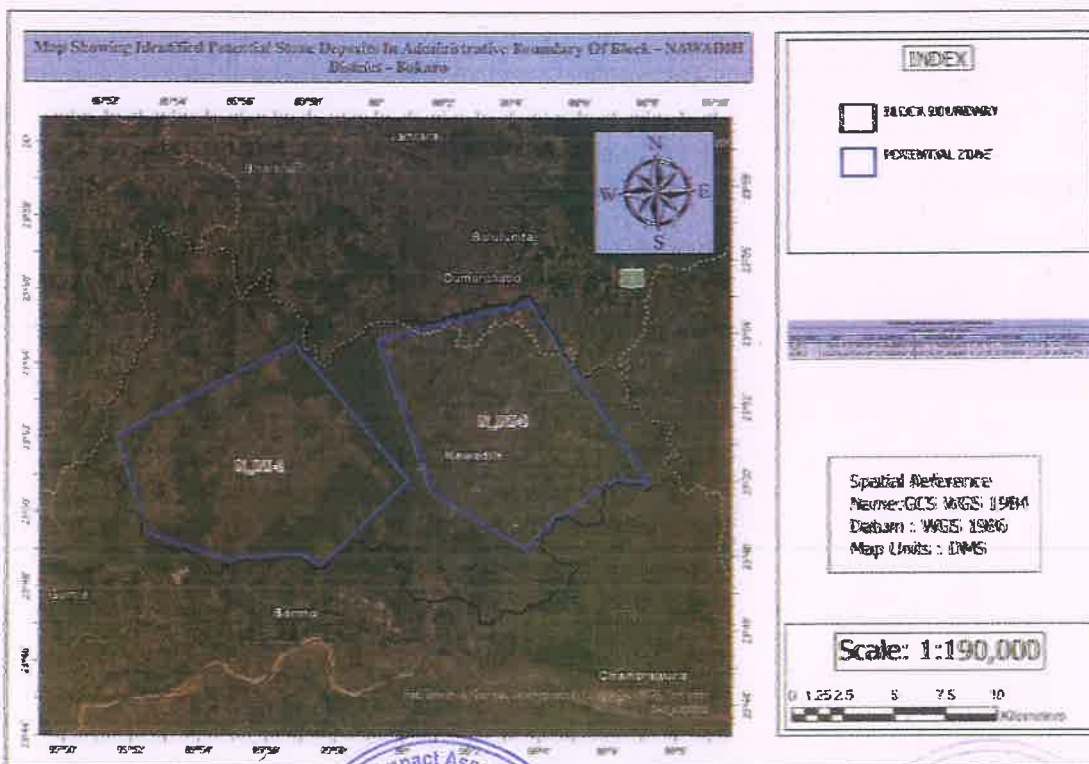
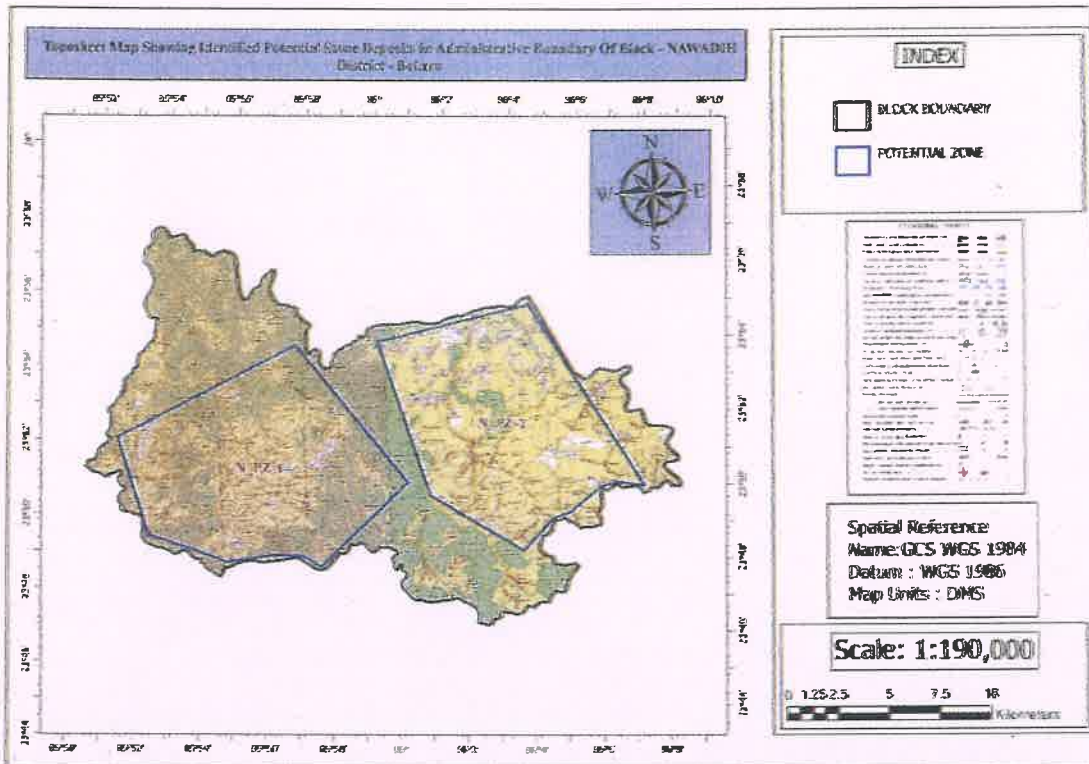




KASMAR

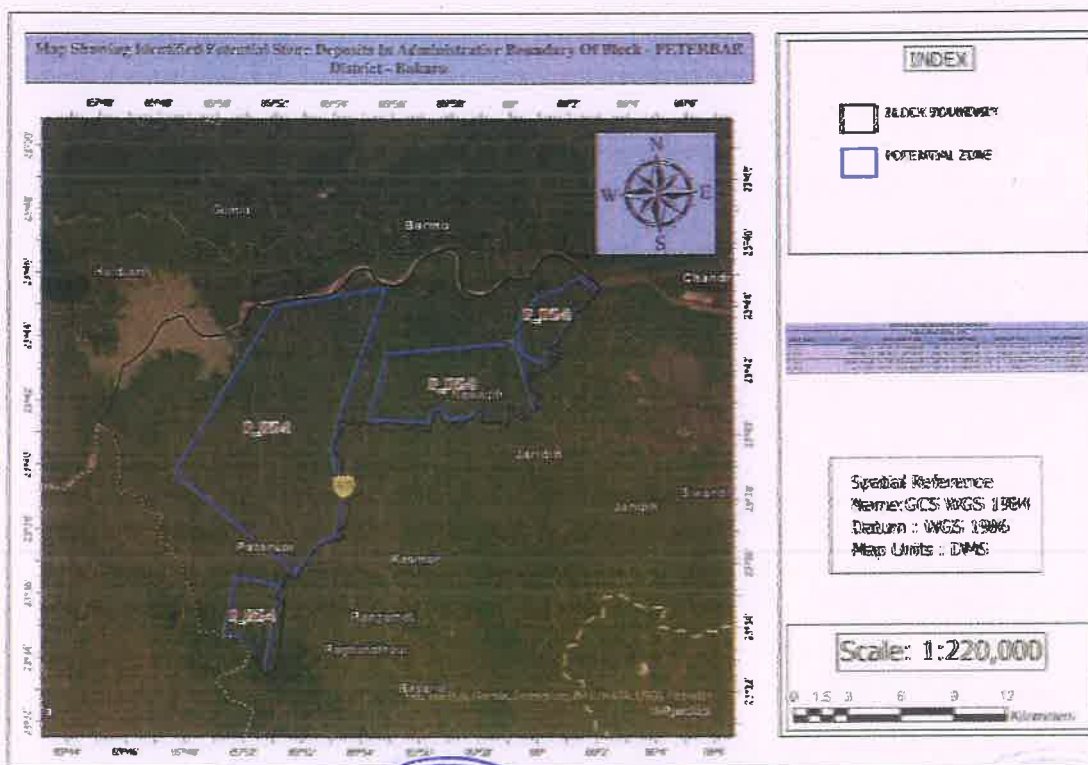
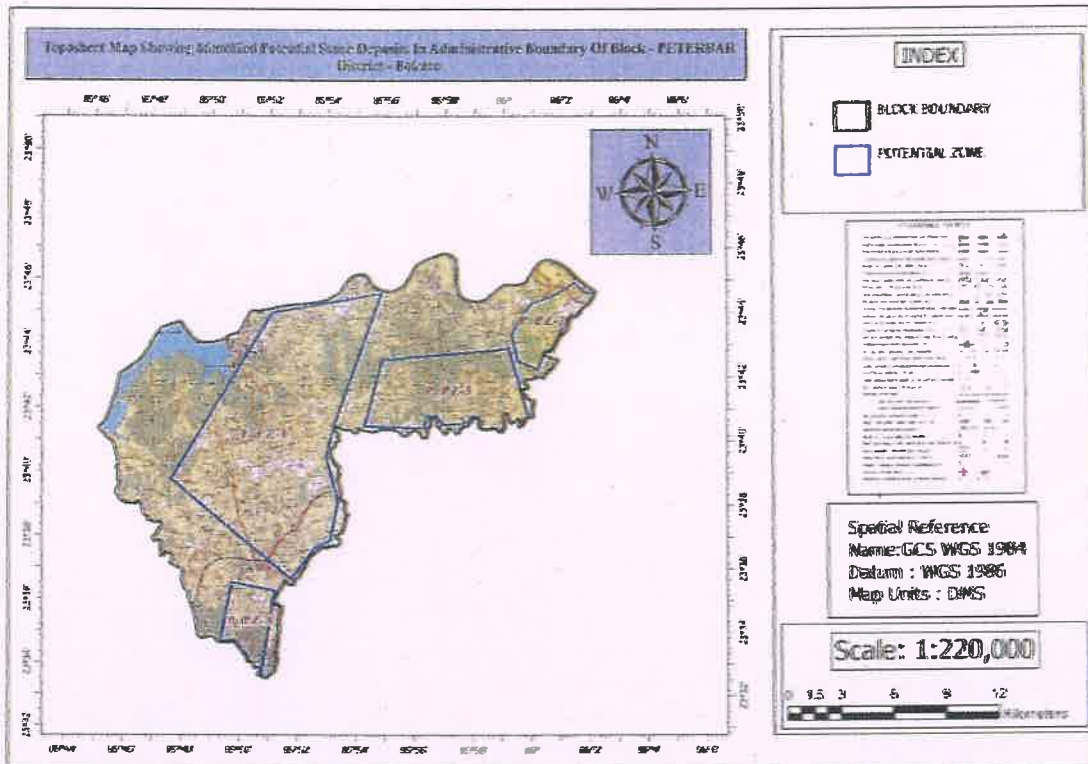
| | | | | | | |
|-----------|-----------|-------------|------------|------------------|--------------|-----------|
| SILISARAM | TELMUNGA | MADHUKARPUR | CHOUDA | DUMARKUDAR | UDAIMARA | JAMKUDAR |
| KHUNTA | DHADHAKIA | MAYAPUR | BHURSATANR | LODHKIARI | BASARIA | MANJURA |
| PIPRADIH | HANSLATA | KURKO | JUMRA | KOTOGARA | TANGTONA | RANGAMATI |
| SONHAR | KASMAR | GARRI | PARI | HARNAD | ASHTABERA | MUNGO |
| SONPURA | SURJUDIH | JHARMUNGA | KAIRAKUDAR | KARMA | PAKRIBANDH | DURGAPUR |
| KAMLAPUR | BENDOTANR | TIRIONALA | MURHULSUDI | PIRGUL | BHAWANIPUR | |
| DANTU | BEMROTANR | GOMANJARA | DABHADIH | KHAIRA CHATAR | RAGHUNATHPUR | |
| PONDA | ORMO | KADLA | KHUDIBERA | SINGHPUR | BAGDA | |
| MOCHRO | JAMHAR | HISIM | CHOLI | GAREA KUDAR | BAGIARI | |





| NAWADIH | | | | | |
|--------------|-----------------|---------------|----------------|-------------|----------|
| POKHRIA | KAUSI | BARKI KURI | ARGAMNO | SAHARIA | LEMBUDIH |
| DEGAGARHA | KACHHO | PALAMU | KURPANIA | JUNODIH | KATGHARA |
| TENGNACHUNWA | KANJKIRO | GHOSKO | KHARPITO | BODRO | BHALMARA |
| MOCHRO | PILPILO | BARIDIH | KHAIYO KHAR | CHEPRO | BIRNI |
| BANSI | NARAINPUR | SARUBERA | KOKIODIH | BARADIH | |
| KUJUBERA | LAHIA | AMJHAR | TARATANR | PARASBANI | |
| DALKIRO | HARIADIH | BHAWANI | NAWADIH | DHAWATANR | |
| GONIATU | JURAMANA | POTSO | SURHI | CHIRUDIH | |
| PENK | CHHOTKI KURI | KHUNTA | AHARDIH | KIMBUJHARIA | |





| PETERBAR | | | | | |
|------------------|---------------|-----------|---------------------------|-------------|--|
| PICHHRI | BAGHJOBRA | JABUNAL | UTASARA | TAKAHA | |
| KHERHO | ULGARA | MAYAPUR | BANGA | PONRDAG | |
| ANGWALI | SAMLATA | PHUTKADIH | AMBADIH | JARUATANR | |
| JHUJHKO | CHATUGARA | PATKI | DARID | PETARBAR | |
| KHETKO | GARRI | ARJUA | KAJRUM | SADMA KALAN | |
| BASARIA | ROHAR | ORDANA | LUKUIYA | ACHAIYA | |
| CHAMPI | RAGHUBAHAR | HARMITA | CHANDRAPURA | OBRA | |
| KESWARI | CHANDO | CHIPUDAG | BUNDU | SADMA KHURD | |
| GHWATANR BALUDIH | BHULAN KHETKO | JABRA | ARARI | GAGI | |
| TENU | NAWADIH | JHIRKI | SARLA KHURD ALIAS JARADIH | RUKAM | |
| ETKE | KATARBERA | | | | |

| Blockwise Geological reserve available in Bokaro | | | | |
|--|--------------|----------------|--------------|--------------------|
| BLOCK | AREA (IN HA) | AREA (IN Sq m) | DEPTH (IN M) | VOLUME (IN Cu m) |
| BERMO | 1515.57 | 15155700 | 30 | 454671000 |
| CHANDANKIARI | 13482.62 | 134826200 | 32 | 4314438400 |
| CHANDRAPURA | 6018.381 | 60183810 | 34 | 2046249540 |
| CHAS | 23553.58 | 235535800 | 35 | 8243753000 |
| GUMIA | 31155.64 | 311556400 | 31 | 9658248400 |
| JARIDIH | 12542.213 | 125422130 | 37 | 4640618810 |
| KASMAR | 11334.77 | 113347700 | 39 | 4420560300 |
| NAWADIH | 19378.76 | 193787600 | 35 | 6782566000 |
| PETERBAR | 15956.29 | 159562900 | 30 | 4786887000 |
| | | | TOTAL | 45347992450 |



Blockwise Potential Villages for Earth Work:

| |
|--------------|
| BERMO |
| Burgara |
| Armo |
| Lukubad |
| Garnke |

| CHANDRAPURA | | |
|--------------------|--------------|--------------------|
| Karidugedho | Kurumba (CT) | Bandio (CT) |
| Sijhua (CT) | Pipradih | Taranari Madhubani |
| Dugda (CT) | Ghatiari | Telo |
| Bandhdih | Taranga (CT) | Charri |
| Bursera (CT) | Alargo | Khalcho |
| Ratari | Fatehpur | Junori |

| NAWADIH | | | | |
|-----------------|--------------|--------------|--------------|--------------|
| Mongo Rangamati | Harladih | Tengnachunwa | Kausi | Ahardih |
| Pipradih | JURAMANA | Mochro | Kachho | Lembudih |
| Narainpur | Mahuatanr | Bansi | Kanjkiro | Katghara |
| Lahia | Kothi | Kujubera | Pilpilo | Bhalmara |
| Belargaraha | Kesgara | Goniatu | Kharpito | BiRNI |
| Pokhria | Degagarha | Penk | Surhi | Galudih |
| Saharia (CT) | Chhotki-Kuri | Sarubera | Dahiari | Nawadih (CT) |
| Junodih | Barki Kuri | Bhawani | Dhamni | |
| Bodro | Palamu (CT) | Potso | Parasbani | |
| Chepro | Barai | Khunta | Dhawatanr | |
| Gunjardih | Baridih | Argamno | Chirudih | |
| Kanchanpur | Ghosko | Baradih | Kimbu Jharia | |



| PETERBAR | | | | |
|-----------------|------------------|---------------|------------------|----------------------------------|
| Rukam | Angwali | Baghjobra | Chando | Arari |
| ETKE | Jhujhko | Ulgara | Bhulan Khetko | Lepo |
| Katarbera | Chalkari (CT) | Samlata | Nawadih | Kherho |
| Chargi | Khetko | Chatugara | Mirzapur | Jabunal |
| Koh | Basaria | Rohar | Korarma | Sarla Khurd alias Jaradih |
| Nawadih | Champi | Raghubahiar | Rangamati | Gharwatanr Baiudih |
| Pichhri (CT) | Keswari | Khurdchando | Gaga | Munga Sarla alias Bhurhangora |
| Mayapur | Harmita | Darid | Sadma Kalan | |
| Phutkadih | Chipudag | Kajrum | Achaiya | |
| Patki | Jabra | Lukuiya | Obra | |
| Arjua | Jhirki | Takaha | Sadma Khurd | |
| Merudaru | Utasara | Ponrdag | Gagi | |
| Katamkuli | Banga | Jarwatanr | Chandarpura | |
| Ordana | Ambadih | Petarbar (CT) | Bundu | |

| KASMAR | | | |
|------------|------------|------------------|---------------|
| Silisaram | Mochro | Ormo | Kurko |
| Khuta | Telmunga | Karkata Khur | Garri (CT) |
| Pipradih | Dadhkia | Jamhar | Jharmunga |
| Sonhar | Haslata | Chandipur | Karkata Kalan |
| Sonpura | Kasmar | Madhukar Pur | Chainpur |
| Kamlapur | Sarjudih | Barai Khurd | Tirionala |
| Dantu | Bendotanr | Barai Kalan | Gomanjara |
| Ponra | Bemrotanr | Mayapur | Kadla |
| Hisim | Khudibera | Pirgul | Nawadih |
| Chora | Choli | Khaira Chatar | ASHTABERA |
| Bhursatanr | Dumarkudar | Singhpur | Pakribandh |
| Jumra | Lodkiari | Garea Kudar | Bhawanipur |
| Pari | Merha | Udaimara | Raghnathpur |
| Kairakudar | Kotogara | Basaria | Bagda |
| Murhulsudi | Harnad | Meramhara | Bagiari |
| Dabhadih | Karma | Tangtona | Jamkudar |
| Manjura | Rangamati | Mungo | Durgapur |



| JARIDIH | | | | | |
|-----------------------|-----------------|-----------|----------|------------------|-------------------|
| Tantri | Bharu | Ganjhandi | Birsaram | Pengikudar | Bhaski |
| Thakurtanr | Bakaspura | Araldih | Chilgora | Haridih Hardi | Torra |
| Khutri (CT) | Kalyanpur | Balrampur | Garke | Saraibinda | Lipu |
| Kenduadih | Baradih | Baramasia | Gopalpur | Araju | Roria |
| Tanr Balidih (CT) | Gopinath Pur | Gangjori | Sundro | Kamlapur | Bandh Dih (CT) |
| Tanr Mohanpur (CT) | Bahadurpur | Pathria | Beldih | Ara Saram | Piro |
| Jena (CT) | Banchas | Tilaiya | Hanrhuro | Jogidih | |

| GUMIA | | | | | | |
|-------------------|---------------------|-------------|------------|-----------------|-----------------|-----------------------------------|
| Balia | Chhotki Sidhbara | Tiskopi | Kurknalo | Bandiha | Jumrapahar | Chitu |
| Jarea | Barki Sidhabara | Jarkunda | Tisri | Alaundi | Rahawan | Banchatra |
| Hurlung (CT) | Khokhando | Barkichidri | Nawdanda | Singpur | Pachmo | Gose |
| Narkandi | Barka Murpa | Karma | Kharna | Nawadih | Baghraiya | Dumri |
| Chipri | Katwari | Dhudhmo | Lodhi | Chotki Murpa | Morha | Uda |
| Tithi | Mangro | Karmo | Chute | Mukhchuma | Halwe | Siari |
| Bhitia | Tusko | Kari Kalan | Danra | Ambatanr | Danea | Daridag |
| Gurudih | Chatro Chati | Kari Khurd | Sawai | Rola | Rajderwa | Gumia (CT) |
| Gomi Karmatanr | Chilgo | Baigankeri | Jamni Jara | Purnapani | TUIYO | Palani |
| Jhumeli | Hardiamo | Kunda | Chorganwa | Gopo | Dhawaiya | Murpa |
| Ocho | Hasir (CT) | Lawalang | Ambadih | Mahuatanr | Hurdag | Jaharlong |
| Dhendhe | Saram (CT) | Tirla | Gangpur | Chotakipunu | Bendi | Khamhar (CT) |
| Birsa | Jagesar | Honhe | Keri | Palu | Kairatanr | Sandachia alias Kulkudi |
| Tulbul | Tilaiya | Chagri | Khirabera | Haradgada | Sasbera (CT) | Kodwatanralias Bhitugarha (CT) |
| Pindra | Dakasaram | Rangamati | Aiyar | Derhabera | Hazari (CT) | Palihari Gurudih (CT) |
| Tutijharna | Seheda | Baridari | Rohidih | Kander | Khudgara | |
| Lalgarh | Khakhanda | Naran | Tikahara | Jaharlong | Mahlibandh | |
| Lugu Pahar | Chugnu | Tilaiya | Barkipunu | Semrabera | Bartua | |



CHANDANKARI

| | | | | | | |
|------------|------------|----------------------------|---------------|-------------------|--------------|------------|
| Piparkudar | Silphor | Amlabad (CT) | Asanshol | Surajyadi | Kumirdoba | Lalpur |
| ALUARA | Fatepur | Karadi | Mahal (CT) | Sabna | Nuniadi | Chakpendra |
| Machatanr | Talgaria | Shibbabudi | Silajuri (CT) | Chandra (CT) | Chandipur | Jhabra |
| Diborda | Nawadi | NARADI | Tentulia | Barajor | Barishabad | Pathra |
| Batbinor | Tilatanr | Jagidi | Bangaria | Bindabanpur | Gangudi | Chakparbad |
| Pipraber | Debgram | Uparbandha | Asanbani | Saharjuri | Bodma | Gorigram |
| Parbatpur | Kendulia | Nerpurbanchak | Udalbani | Sutribera | Nadiha (CT) | Manpur |
| Simulia | Babuigor | Arita | Agardi | Phusra | Khedadi | Chirda |
| Gurri | Birkham | Bharajuri | Kali Kapur | Kelyadag | Ghoragara | Parbahal |
| Machatanr | Laghla | Palkudri | Adarkunri | Lanka | Udaipur | Barda |
| Rangametya | Kusumkiari | Phulbahra | Sharishakuri | Polashdabar | Gamarya | Kherabera |
| Lututanr | Amainagar | Damudi | Sanrboa | Jashpur | Amdiha | Mohanpur |
| Bogla | Banshtora | Darida | Batboa | Ghaghri | Mazoorubi | Muktapur |
| Barkama | Kauria | Shimalkunri | Nawadi | Kanakchas | Lakshipur | Rangragara |
| Palkiri | Nekura | Kurarya alias Babaram | | Chandankiari (CT) | Jharna | kanchanpur |
| Amdiha | Marra | Nayaban alias Pabratn | | Bhojudih (CT) | Gundlibhitha | Damodarpur |
| Tekora | Bhuski | Gopinathpur alias Gosaindi | | Narkarai | Chhatatanr | Boryadi |
| Baramesya | Banshara | Pathargarha | Sitanala | Jhalbarda | Rahinigara | |



CHAS

| | | | | | | |
|------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Bamundanrika | Bhunyadarika | Kolbendi | Tiara | Barpokhar | Bhanro (CT) | Sijhua |
| Gopalpur | Gopalpur | GOPiDi | Babudi | Kurma | Kashiharia | Jhapro |
| Kendadi | Chikisia | Durgapur | Shilphor | Turidi | Dewanganj | Dharampura |
| Pindrajora | Bandhpua | Kushma | Punrru | Chopatanr | Kanrra (CT) | CHAI NPUR |
| Abra | Adamdi | Raghunath Chak | Tupra | Bishwanathdi | Girdhartanr | Radhanagar |
| Basantpur | Chakalia | Andhartairya | Dabarbahal | Baryadi | Keshridi | Sunta |
| Amadi | Chitami | Dudhigajar | Mohoda | Kelyadabar | Mamar Kudar | Ghatiali (CT) |
| Simalaya | Khirabera | Sardaha | Ranichirka | GOPiDi | Badhadi | Hutu Pathar |
| Ulgara | paidadi | Mirdha | Ashudi | Tughari | Bodro | Partanr |
| Kathwari | Padudi | Leda | GURGURi | DABKA | Alkusa | Kunarpur |
| Kura alias Kuradi | Telmatiya | Barmasia | Kumardaga | Belut | Dhandabar | Dhabni |
| Jogidi alias Raghunathdi | Baradi | Chhanrgoi | Dumarda | BELANJA | Sindurpeti | Usardi |
| Narayanpur (CT) | Khuntadi | Jaytara | BiJULiA | PAiLADi | Chandaha | Madhuria |
| Raniganj alias Chatitanr | Janamdi | Sijhua | Amuramu | Bansa | Buribinora | Karmagora |
| Khamarbandi (CT) | Bahadurpur | Chas (M Corp.) | Chas (M Corp.) | Chas (M Corp.) | Chas (M Corp.) | Chas (M Corp.) |
| Santandi alias Chak Mohanpur | Chas (M Corp.) | Chas (M Corp.) | Chas (M Corp.) | Chas (M Corp.) | Chas (M Corp.) | Chas (M Corp.) |
| Chuatanr alias Kapitanpur | Bandhdi | Kumri | Sialgajra | Gamdidi | Kala Pather | Sonabad |
| Pupunkighatbera (CT) | | | | | | |



15. QUALITY/GRADE OF MINERAL AVAILABLE IN THE DISTRICT

A petro-logical study of stones found in mines of Bokaro district have been studied and found that stone is medium to fine grained, fractured, innocuous and suitable for road and building construction.

Commonly found rocks in Bokaro district is Granite gneiss, which is a rock consisting of an orthogenesis having the composition of a Granite. It is a high grade metamorphic rock, which has been subjected to higher temperatures and pressures than Schist. It is formed by the metamorphosis of granite, or sedimentary rock. Gneiss displays distinct foliation, representing alternating layers composed of different minerals. However, unlike Slate and Schist, gneiss does not preferentially break along planes of foliation because less than 50% of the minerals formed during the metamorphism are aligned in thin layers. Because of the coarseness of the foliation, the layers are often sub-parallel, i.e. they do not have a constant thickness, and discontinuous.

The Granitic Stones of Bokaro district are not suitable for cutting to pre-determined sizes, polishing and carving and amenable for making value-added products in decorative monumental and ornamental fields of industry as a high-value item.

(Source: Previous DSR [Stone] of Bokaro District)



16. USE OF MINERAL

Stones form one of the most important building materials in civil engineering. Stones are derived from rocks, which form the earth's crust and have no definite shape or chemical combination but are mixtures of two or more minerals. The mineral is a substance which is formed by the natural inorganic process and possesses a definite chemical combination and molecular structure. They are strong, durable and descent in appearance.

Stone is an essential and more permanent building material in construction than other natural building materials. Based on the type, stones can be used in buildings for flooring, roofing, masonry paving roads and also as aggregates for concrete.

Most of the prehistoric monuments are built with natural stones as they remain stable with time. Before the advent of concrete stones were highly preferred for heavy engineering works like bridge piers, harbour walls, sea side walls and for facing works.

Stones for construction purposes are obtained by quarrying from solid massive rocks. The stone used for masonry construction should be hard, durable, tough and should be free from weathered soft patches of material, cracks and other defects that are responsible for the reduction of strength and durability.

Based on Geology, stones or rocks are classified into three types:

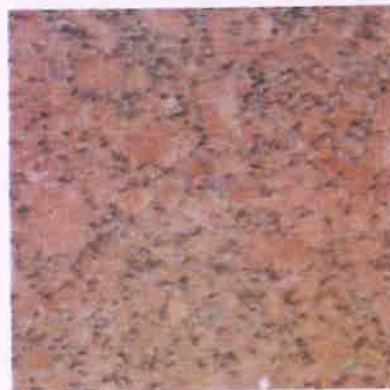
- Igneous Rocks – Basalt, Trap, Andesite, Rhyolite, Diorite, Granite.
- Sedimentary Rocks – Limestone, Dolomite and Sandstone.
- Metamorphic Rocks – Gneiss, Quartzite, Marble, Slate.

Types of Building Stones:

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

Granite

It is a deep seated igneous rock, which is hard, durable and available in various colours. It has a high value of crushing strength and is capable of bearing high weathering.



Granite is used for bridge components, retaining walls, stone columns, road metal, ballast for railways, foundation, stonework and for coarse aggregates in concrete. These stones can also be cut into slabs and polished to be used as floor slabs and stone facing slabs.

Basalt and Trap

They are originated from igneous rocks in the absence of pressure by rapid cooling of the magma.





They have the same uses as granite. Deccan trap is a popular stone of this group in South India.

Limestone

It is a sedimentary rock formed by remnants of seaweeds and living organisms consolidated and cemented together. It contains a high percentage of calcium carbonate.



Limestone is used for flooring, roofing, pavements and as a base material for cement.

Sandstone

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



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

Gneiss

It can be recognized by its elongated platy minerals usually mixed with mica and used in the same way as granite.



Marble

It is a metamorphic rock which can be easily cut and carved into different shapes.





It is used for ornamental purposes, stone facing slabs, flooring, facing works etc.

Slate

It is a metamorphic rock which can be split easily and available in black colour.



It is used for damp-proofing flooring and roofing.

Quartzite

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



It is difficult to work with and used in the same way as granite but not recommended for ornamental works as it is brittle.

Laterite

It is decomposed from igneous rocks; occur in soft and hard varieties. It contains a high percentage of iron oxide and can be easily cut into blocks.



The soft variety is used for walls after curing while the hard blocks are used for paving the pathways.

Uses of Building Stones:

The stones used for various types of works are as follows



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



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

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

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

There is a huge demand of stone chips for domestic and infrastructure sector. Only a few stone mines have environmental clearance for extraction of stone. There is limited supply of stone and there is huge gap. There are no statistical data, regarding demand and supply of minerals in Bokaro district. Due to construction of roads and public buildings for development works in the district a large number of stone chips & boulders are required. This will meet only by granting new leases in the district.



18. MINING LEASES MARKED ON THE MAP OF THE DISTRICT

As per record of Bokaro District Mining Office, 27 Stone mining leases are registered out of which only 08 mining leases are in operational in current. The location of mining leases is given in Table 20.1 & Figure 20.1

Figure: 20.1: Location of Mining Lease in the Map of Bokaro district.

- Attached as **Annexure – I.**

Table 20.1: Location of Mining Lease in the Bokaro district

| Sl. No. | Name of the Lessee | Address & Contact No. of the Lessee | Mouza/Block | Location of the Mining Lease (Latitude & Longitude) | Working/ Non-working |
|---------|--|---|--|--|----------------------|
| 1 | M/s Bhole Minerals of Shri Rajesh Kumar Singh S/o – Shri Laxman Singh | Q. No. – 2134, Street – 4 Sector – 4/A Bokaro Steel City Dist. - Bokaro | Mouza – Chainpur P.S. – Balidih Circle - Chas Khata No. – 02 Plot No. – 947(P) | 23°35'40.90"E to 23°35'47.30"N 86°03'22.30"E to 86°03'28.50"E | Working |
| 2 | M/s Jai Maa Enterprises Crusher & Quarry of Shri Om Prakash Singh S/o Shri Ram Singhasan Singh | Q. No. – 262 Sector 1/B Bokaro Steel City Dist. - Bokaro | Mouza – Pailadih P.S. – Chas(M) Circle – Chas Khata No. – 40 Plot No. – 106, 108 & 109(P) | 23°41'05.70" to 23°41'10.40" N 86°15'54.60" to 86°15'58.90" E | Working |
| 3 | Shri Usman Ansari S/o – Late Yunusuddin Ansari | Village – Lalpur P.O. – Kumirdova P.S. – Chandankiyari Dist. – Bokaro | Mouza – Lalpur Circle + P.S. – Chandankiyari Plot No. – 254 Plot No. - 1479 | 23°17'34.65" to 23°17'37.84" N 86°32'35.20" to 86°32'37.05" E | Working |
| 4 | M/s Nayak Construction of Shri Subhash Chandra Nayak S/o – Shri Bhushan Chandra Gorai | Village + P.O. – Siyaljori Dist. – Bokaro | Mouza – Suryadih P.S. – Siyaljori Circle – Chandankiyari Khata No. – 19 Plot No. – 655(P), 691, 694(P), 695(P) | 23°37'17.35" to 23°37'27.10" N 86°18'31.80" to 86°18'38.30" E | Working |



| | | | | | |
|---|--|--|---|--|---------|
| 5 | <p>M/s Trimurti Quarry & Crusher of <u>Partner 1:</u> Shri Birendra Kumar Pandey S/o – Late Harihar Prasad Pandey <u>Partner 2:</u> Shri Jagdish Prasad Mahto S/o – Late Deglal Mahto <u>Partner 3:</u> Shri Pravin Kumar Pandey S/o – Late Shanti Prasad Pandey</p> | <p>Village + P.O. – Taranga P.S. – Chandrapura Dist. – Bokaro</p> | <p>Mouza – Taranga Circle + P.S. – Chandrapura Khata No. – 101 Plot No. – 1220(P)</p> | <p>23°47'24.66" to 23°47'29.23" N 86°09'05.32" to 86°09'08.16" E</p> | Working |
| 6 | <p>M/s Kirty Enterprises of <u>Partner 1:</u> Shri Yogendra Prasad S/o – Shri Umacharan Mahto <u>Partner 2:</u> Shri Suresh Prasad S/o – Shri Jagdish Mahto <u>Partner 3:</u> Shri Arjun Prasad S/o – Late Gulabchand Kumhar</p> | <p>Village + P.O. – Telo P.S. – Chandrapura Dist. - Bokaro</p> | <p>Mouza – Telo Circle + P.S. - Chandrapura</p> | <p>23°48'57.30" to 23°49'02.40" N 86°06'31.20" to 86°06'35.90" E</p> | Working |
| 7 | <p>Shri Pankaj Kumar S/o Shri Kashinath Singh</p> | <p>House No. – 24A Village + P.O. – Bhaski P.S. – Jaridih Dist. - Bokaro</p> | <p>Mouza – Barai Circle + P.S. – Nawadih Khata No. – 31 Plot No. - 736</p> | <p>23°51'34.00" to 23°51'37.12" N 85°58'33.74" to 85°58'35.30" E</p> | Working |
| 8 | <p>Shri Rakesh Kumar S/o – Shri Arun Kumar</p> | <p>Village – Ramnagar Colony P.O. + P.S. – Chas Dist. - Bokaro</p> | <p>Mouza – Partanr Circle – Chas P.S. – Siyaljori Khata No. – 86 Plot No. – 1176(P)</p> | <p>23°38'09.85" to 23°38'17.63" N 86°15'02.36" to 85°15'09.02" E</p> | Working |



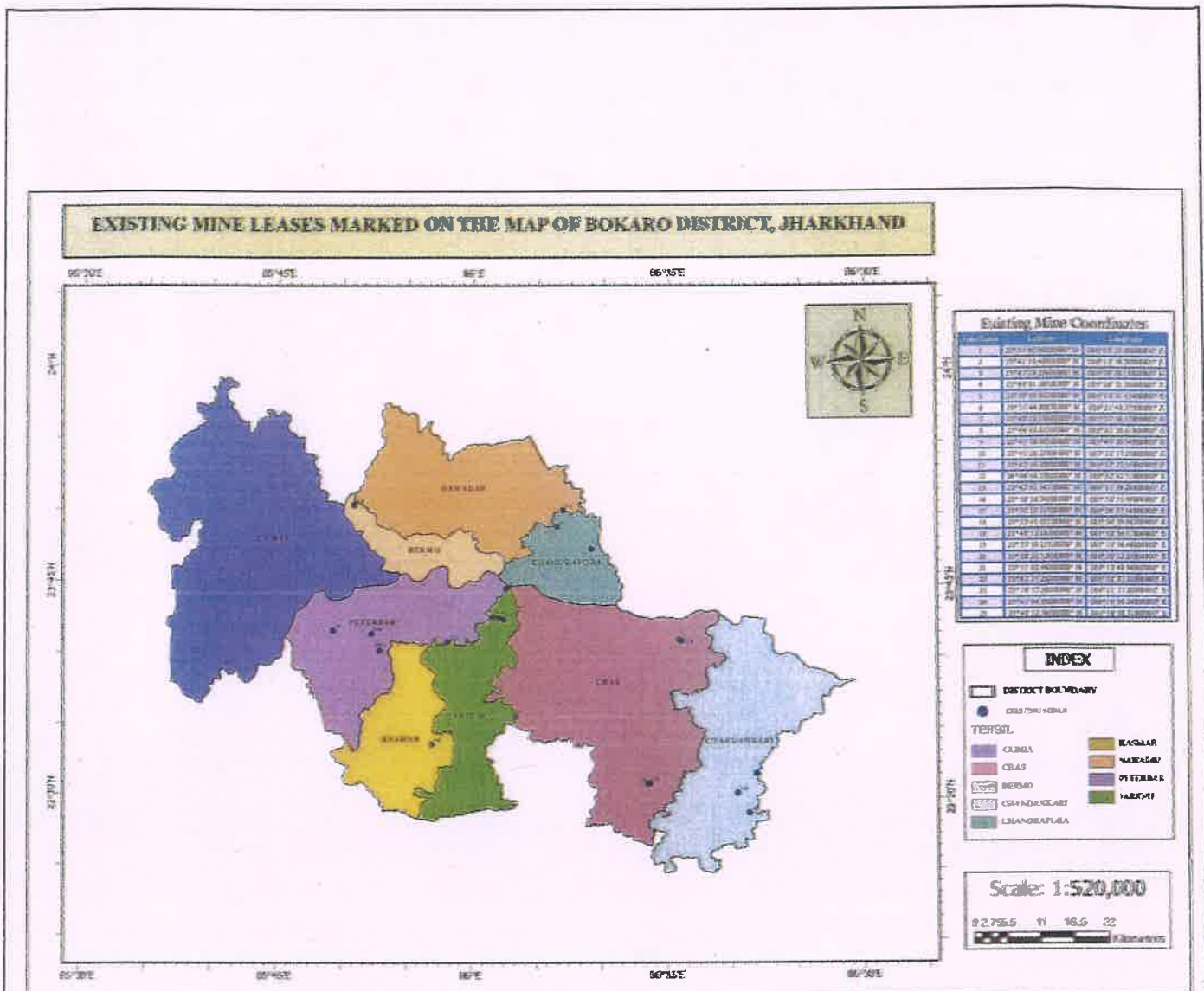


Fig 18.1:- Existing mining Leases in Bokaro District



19. DETAILS OF THE AREA OF WHERE THERE IS A CLUSTER OF MINING LEASES

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

There is no such cluster of mining lease found in Bokaro, district. However, it is proposed to consider the cluster of mining lease while planning for new lease area in coming years.



20. DETAILS OF ECO-SENSITIVE AREA

There is no any Eco-Sensitive area falls in Bokaro district. Major part of Bokaro district is covered with lush green forest and climate is very pleasant. The landscape of Bokaro district is formed of hills and undulating plateau. About 640 km² areas of the district are covered under the forest. However, Jawahar Lal Nehru Biological Park is situated in Bokaro town.



21. IMPACT ON THE ENVIRONMENT DUE TO MINING

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

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



WATER QUALITY

IMPACT

Typical impact on Water Quality due to mining activities are;

- Run-off of sediments due to
 - ✓ Site Preparation
 - ✓ Dumping of OB
 - ✓ Crushing
 - ✓ Drilling
- Contamination of oil or chemical in water (surface & ground water) due to
 - ✓ Dumping of OB
 - ✓ Drilling
 - ✓ Blasting
 - ✓ Spills due to transportation

MITIGATION MEASURES

To mitigate the impact some suggestive measures are;

- Run-off
 - ✓ Provide garland drains around quarry to intercept surface run-off from high elevation to quarry and divert it to collection cum desilting pond.
 - ✓ 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
- Water Contamination
 - ✓ Water pump out from quarry will need to be diverted to storage cum desilting pond for treatment.
 - ✓ Proposed effluent treatment plant (ETP).
 - ✓ Regular repair & maintenance of equipment & vehicles.
 - ✓ Movement of heavy vehicles may be restricted to lease area and road so that leaking oil & grease may not contaminate water quality.
- PROMOTE ZERO LIQUID DISCHARGE (ZLD).



| 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"> ✓ Mining operation to be confined to day shift only ✓ At machineries to be repaired and maintained regularly. ✓ Raise Green Belt in safety zone. ✓ Avenue plantation along a both sides of Link Road ✓ Regular repair and maintenance of mining equipment & transportation vehicle. ✓ Proper repair and maintenance of road. ✓ Speed restriction of 20 KMPH on unpaved road. ✓ Acoustic Barrier along the periphery of mining lease at critical points. |

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



| 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"> <input type="checkbox"/> Habitat Destruction <input type="checkbox"/> Ecosystem Disruption <input type="checkbox"/> Damaging | <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 & its operation such mitigation measures are given below;</p> <ul style="list-style-type: none"> ✓ Mine site are selected considering siting criteria prescribed by Government (JSEIAA / JSPCB / MOEF & CC). ✓ Avoid site which have tree cover. ✓ Avoid site through which drainage channels passes through. ✓ Ecological Assessment: Conduct a thorough ecological survey to identify species and habitats present. ✓ Buffer Zones: Establish buffer zones around sensitive habitats to minimize disturbance. ✓ Minimize Habitat Destruction: Plan site layout to avoid key habitats and minimize vegetation clearing. ✓ Translocation: Consider translocating significant flora and fauna to safe areas. ✓ Restoration Plans: Develop a habitat restoration plan for post-mining activities. ✓ Wildlife Corridors: Ensure wildlife corridors are maintained to facilitate animal movement. If a wildlife corridor passes through or around a mining lease area, a Wildlife Conservation Plan will be prepared. These measures help protect biodiversity and mitigate the environmental impact of stone mining. |



ENVIRONMENTAL IMPACTS:

Population growth, economic development and environmental degradation are interlinked with each-other. Similarly, mining activities have considerable impacts on environment. The most important environmental problems from the mining activities are mercury pollution, cyanide pollution, direct dumping of tailing and affluent into river. These environmental problems from mining activities are the global phenomena. In the study area, stone mining activities have very adverse impact on the environment. It does not only degrade the land and forest areas but also, it affects the air, water and health qualities. Faunal and floral depletion, due to mining activities, is also enormous. Environmental impacts due to mining activities was manifested as water pollution, land degradation, loss of biodiversity, air pollution, increase in health related problems, occupational noise pollution, vibrations, land subsidence and landslides.

LAND DEGRADATION:

Land degradation is one of the significant impacts arising out of mining and quarrying activity which is mainly in the form of alternation of land structure due to excavation, stacking of top soil and loss of land due to dumping of mine waste and overburden soil. Stone and sand quarrying causes damage to property, depletion of ground water, loss of fertile top soil, degradation of forest land, adverse effect on the biodiversity and public health. The impacts include soil, water, air, vegetation, landscape and the effects can be of different entity, depending on several factors. A number of effects on the environment must be considered, such as noise and vibration, dust traffic, and so on. In the area involved in the quarry the vegetation coverage and the soil are replaced by wide holes surrounded by some big accumulations of waste materials. In this way a sort of accelerated erosion can start whose consequences are not only the quick degradation of the landscape, but also the introduction in the natural cycle of harmful substances causing pollution to the surface waters and to the aquifer.

FOREST DEPLETION AND LOSS OF BIODIVERSITY:

Mining and quarrying, either open cast or underground, destroys landscape and forest ecosystems. The waste materials that remain after the extraction of usable ores are dumped on the surrounding land, thus causing loss of top soil, nutrients and supportive micro flora and vegetation. Decrease in biodiversity – floral and faunal is also prominent as many species are endangered or on the verge of extinction.

One of the biggest negative impacts of quarrying on the environment is the damage to biodiversity. Biodiversity essentially refers to the range of living species, including fish, insects, invertebrates, reptiles, birds, mammals, plants, fungi and even micro-organisms. Biodiversity conservation is important as all species are interlinked, even if this is not immediately visible or even known, and our survival depends on this fine balance that exists within nature. Quarrying carries the potential of destroying habitats and the species they support. Even if the habitats are not directly removed by excavation, they can be indirectly affected and damaged by environmental impacts – such as changes to ground water or surface water that causes some habitats to dry out or others to become flooded.



AIR AND NOISE POLLUTION:

Air pollution, due to dust from the mines, is a common environmental problem in mines and quarries especially open cast operations. The villages located in the vicinity of mines are suffering from air pollution. Many people are suffering from asthmatic and lungs problems. Since the industrial revolution, air pollution has had a deep impact on human health, ecosystems, and stone materials. It is primarily caused by anthropic activities, particularly combustion processes involving fossil fuels and wood, which release various inorganic and organic gaseous and solid compounds into the air. It is widely acknowledged that the primary compounds that negatively affect the integrity of stone materials are the oxides that can react with water, leading to acid formation: carbon dioxide (CO₂), nitrogen oxides (NO₂), and sulfur oxides (SO₂). These acids react with stone, especially carbonate-based materials such as marbles and limestones, resulting in deterioration.

Ground vibration and noise occur as a result of blasting. Blasting is the loading of explosives into drilled holes using detonating technique to achieve the desired fragmentation of the rock. Noise can interfere with human wellbeing such as hearing, sleep and speech and can cause stress-related diseases such as hypertension. The blasting of rocks in the study area has also caused some buildings to crack.

SURFACE AND GROUND WATER POLLUTION:

Water pollution is a major concern in mining operations, where ore is being processed in slurry form to enrich the low quality ore. Water is used in a lot of phases of the mining activity such as cutting, washing, separating out of stone and mud, transporter dust controlling system. This naturally involves water pollution due to the transport of suspended solid particles, involving both surface and ground waters. Concerning the surface waters, the impact is mainly caused by the introduction inside the drainage net of the waste products coming from the stone production the increasing the water turbidity and compromise the water net, moreover, the vegetation reduction due to the removal of the ground coverage provokes the increasing in the speed of surface slide.

SOIL CONTAMINATION:

Soil contamination around the quarrying site is mainly caused by oil spills by trucks and machinery used to extract sand. Thus, stone and sand quarrying also causes serious disturbance to soil, severe soil erosion, and loss of topsoil and removal of top cover. Soil in that area might get compacted because of the transportation of machines and materials.

IMPACT ON ECOLOGY AND AGRICULTURE:

Physiological disorders are largely the results of unfavorable environment with a negative impact on plant growth even though they are not infectious. Physiological or non-pathogenic disorders of crop plants are mainly caused by changing environmental conditions such as temperature, moisture, unbalanced soil nutrients, inadequate or excess of certain soil minerals, extremes of soil pH and poor drainage.

FLORA AND FAUNA:

Stone mining, like many other forms of resource extraction, can have significant impacts on flora and fauna. Here's a summary of some of the main effects:

1. Habitat Destruction

- **Flora:** Mining activities often require clearing large areas of vegetation. This loss of habitat



can lead to a decline in plant species diversity and disrupt ecological processes. Important plant species may be completely eradicated, affecting the stability of the local ecosystem.

- **Fauna:** The destruction of habitats can lead to displacement of wildlife. Animals that rely on specific plants or habitats for food, shelter, or breeding may struggle to survive if their environment is altered or destroyed.

2. Soil and Water Pollution

Flora: Mining operations can lead to soil erosion and the contamination of soil with heavy metals and chemicals used in the mining process. Polluted soil can affect plant growth and may lead to the

- death of sensitive plant species.
- **Fauna:** Polluted water sources can harm aquatic life, including fish and amphibians. Contaminants can enter the food chain, affecting not only aquatic species but also terrestrial animals that rely on these water sources.

3. Altered Ecosystems

- **Flora:** The introduction of mining operations can change the structure of local ecosystems. For example, changes in soil composition and drainage patterns can affect which plant species are able to thrive in the area.
- **Fauna:** Changes in the ecosystem can affect animal populations. Predators and prey relationships may be disrupted, and invasive species may take hold, further altering the balance of the ecosystem.

4. Noise and Dust Pollution

- **Flora:** Increased dust from mining operations can cover plant leaves, reducing photosynthesis and potentially leading to plant stress or death.
- **Fauna:** Noise pollution can disturb wildlife, leading to changes in behavior, stress, and sometimes abandonment of the area. Birds and other animals that rely on sound for communication may be particularly affected.

5. Fragmentation of Habitat

- **Flora:** Mining can create fragmented habitats, which can isolate plant populations and reduce genetic diversity. Small, isolated populations may be more vulnerable to extinction.
- **Fauna:** Fragmentation can lead to smaller, disconnected patches of habitat. This can make it difficult for animals to find mates, food, or migrate, leading to reduced populations and increased risk of extinction.

6. Climate Effects

- **Flora:** Mining activities can contribute to climate change through the release of greenhouse gases. Changes in climate can alter growing conditions for plants and lead to shifts in vegetation zones.
- **Fauna:** Climate change can affect animal migration patterns, breeding cycles, and food availability. Species that cannot adapt quickly enough may face extinction.

Mitigation Measures

To reduce these impacts, mining operations can implement various mitigation strategies, such as:

- **Rehabilitation and Reclamation:** Restoring mined areas to their original state or creating new habitats.
- **Environmental Impact Assessments (EIAs):** Conducting thorough assessments before starting mining projects to understand and plan for potential impacts.
- **Best Practices:** Using techniques to minimize dust, manage waste, and reduce pollution.



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

22.1 Remedial Measures for other than Sand Mining:

▪ Remedial Measures for Air Pollution:

- All machineries and transport vehicles will be properly maintained and pollution check will be done once in a year to keep the emissions from machineries and vehicle under control.
- Water sprinkling will be done on haul road to control emission of dust while transporting minerals and waste. Provision for water spray by tankers on 'kuccha' road shall be done.
- Water sprinkling at loading area.
- Tree plantation along the haul roads & approach road will be done. Plantation along the mine boundary shall be done with tree density of 2000 trees per Hectare as per the norms of MoEF & CC, to control dust & noise.
- Use of personal protective equipment like dust mask.
- Ambient air pollution monitoring will be carried out.

▪ Remedial Measures for Water Pollution:

- Mining is proposed to plan above the ground water table. Therefore, pumping of ground water from mine pit does not arise in this mine. The rain water during rainy season is proposed to settle in a pit and shall be use for dust suppression and plantation. Excess water, if any shall be discharged in natural stream after settling of suspended particles in the pit. Pump having required capacity will be installed to lift accumulated rain water from working pit and pumped to the settling tank.
- Garland drain shall be made around the Waste dump and the rain water shall be collected in garland drain and allowed to settle in a small pit for settling suspended particles before allowing discharge to natural drainage system.
- For domestic waste water Septic Tank with Soak Pit shall be provided, discharge from Soak Pit, if any shall be used for plantation.

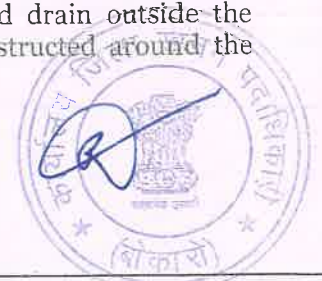
▪ Remedial Measures for Noise Pollution:

- Diesel powered machineries, which is major source of noise in open cast mining shall be properly maintained. Attention shall be paid towards rigorous maintenance of the silencer of the diesel engines.
- Protective devices shall be provided for use of persons employed in the vicinity of high noise areas.
- With the adoption of controlled blasting techniques, the ground vibrations will be minimized.
- Plantation around the lease boundary will cut the noise levels.

▪ Remedial Measures for Land Environment:

Some of the measures followed to minimize the impacts are as follows:

- The mining activities will be restricted within the lease area only.
- The waste material will be utilized for the construction of road and also will be used by the local people for construction work.
- The surface run off from the lease area will be retain within the lease and used for plantation, dust suppression and block cutting. So, there will be no soil erosion from the lease area and its surrounding due to mining activity.
- The dump will have inward slope with catch drains at inward side of the terrace and the catch drain of the individual terrace will be connected to the garland drain outside the periphery of the dump. Retaining wall and garland drain will be constructed around the



dumps and the surface runoff water pass through the garland drain and finally settled in a settling pit before released outside.

- Retaining wall and garland drains for the proposed waste dump will be constructed to arrest wash offs from the dump.
- Maintenance/repair of vehicles and machineries will not be inside the mining area. However, steel trays will be used for any emergency repair and sudden leakage of oil.

▪ **Remedial Measures for Waste Management:**

The solid waste shall be dumped systematically with proper repose angle and stabilization as follows:

- Gradation of dump shall be done automatically as coarser materials go to the bottom and finer at the top and therefore drain of rain water flow freely to the bottom without endangering the stability of dump.
- Stabilization of dump with top soil and tree plantation shall make the dump more stable on long. Dump should be terraced for every 5 m height and stabilized
- 1m height parapet shall be constructed for dumps more than 6m height along the toe to prevent and control wash out from dumps entering into natural system through rain water.
- Garland drainage around dump shall prevent under wash of dump by hydrostatic pressure to be developed by surface water and control wash outs and collapse.

▪ **Remedial Measures for Flora and Fauna:**

Extensive plantation comprising of pollutant resistant trees will be undertaken, which will serve not only as pollution sink but also as a noise barrier. It is proposed to include azadirachta Indica, and ficus Religiosa in the plantation program as they serve as sinks for gaseous emissions.

The impact on the fauna due to the mining activity will be insignificant. The progressive plantation over a period of time will reduce the impact, if any, on the fauna.



23. RECLAMATION OF MINED-OUT AREA

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

Reclamation of mined-out area:

Importance

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

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

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

Components

For successful reclamation following points are to be considered

- Listing inventory of pre mining condition.
- Monitoring flexibility of mining programme in the light of efficient land reclamation.
- Evaluation of the post mining requirements of the region and to decide on the needs and desire of the affected ground.
- To make reclamation planning suitable to techno-economical and socio political environment.
- To assess the physio-chemical characteristics of overburden.
- Extra cost of preservation, re-handling, spreading and levelling of subsoil and topsoil.
- Knowledge of hydrogeological/geomorphological conditions. Aesthetic and/or historic value of land.



24. RISK ASSESSMENT & DISASTER MANAGEMENT PLAN

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

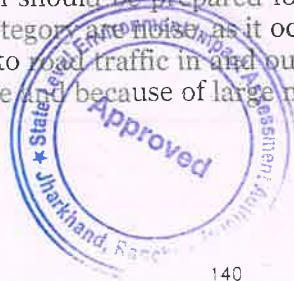
Mining activity because of the very nature of the operation, complexity of the systems, procedures and methods always involves some amount of hazards. Hazard identification and risk analysis is carried for identification of undesirable events that can leads to a hazard, the analysis of hazard mechanism by which this undesirable event could occur and usually the estimation of extent, magnitude and likelihood of harmful effects. The activities which can cause high risk related to face stability and the person blasting the shots. It was observed that on a working face of the mine, there were large cracks and unsupported rocks were present, which can lead to a serious hazard and injure workers engaged in loading operation and machineries because of rock falls or slides. This type of condition turns out because improper dressing of the bench and improper supervision. To avoid the hazards due to fall of rocks the face must be examined, made suitable for working and the remedial measures must be taken to make it safe if there is any doubt that a collapse could take place. Working of the face should be in the direction taking into account the geology of the area such that face and quarry side remain stable. Another major risk identified in mines is due to the firing of explosive by an unqualified person. In the mines there is problem of fly rocks and the village is located close to the mine and so it is rated high as it can affect many people.

Explosives by nature have the potential for the most serious and catastrophic accident. Planning of round of shots, holes correctly drilled, direction logged, weight of explosive suitable for good fragmentation are the few of the steps necessary to ensure its safe use and if the shots are not properly designed can result in misfires, early ignition and flying rocks. No person is allowed to use explosives without being properly trained in its handling.

In the mine a large numbers of heavy vehicles were in operation and the roads were not proper for haulage purpose. The haulage roads were not even and were not wide enough for the crossing purpose and hence the chances of hazards are very high. The main hazards arising from the use large earth moving vehicles are incompetent drivers, brake failure, lack of all-around visibility from the driver position, vehicle movements particularly reversing, roll over, and maintenance. Those most at risk are the driver and pedestrians likely to be struck by the vehicle, and drivers of smaller vehicles, which cannot be seen from the cabs of large vehicles. Edge protection is always necessary to prevent inadvertent movement over the edge of roadway or a bench. Seatbelt will protect driver in case of roll. Good maintenance and regular testing are necessary to reduce the possibility of brake failure. Access to the vehicles should always be restricted to those people necessary for the work in hand. The use of personal protective equipment and proper arrangements to check if the person is wearing a personal protective equipment or not is essential. The personal protective equipment includes helmet, non-skid safety boots, safety glasses, earmuffs etc.

The required personal protective equipment should be provided and used in a manner that protects the individual from injury. Few minor injuries which can be prevented are slip, trip or fall hazards; hazards due to rock falls and collapse of unstable rocks, atmosphere containing toxic or combustible gases; protects from chemical or hazardous material etc.

A disaster management plan should be prepared for taking care of for any disaster. Other risk which are included in this category are noise, as it occurs and it can lead to permanent disability. There are problems related to road traffic in and out issuers; inappropriate exposure of moving machines; mechanical failure and because of large number of moving trucks and dumpers there



is large quantity of dust present in roadways which affects the operators and can lead to accidents causing injury. They are in acceptable range because of precautions measures taken but no step is taken it can cause hazard. Hence, the steps should be taken to reduce the hazards such as for dust suppression system should be installed.

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

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

- Company Manager
- Company Owner/Administrative Officer
- District Administration
- Govt. Hospitals in nearby localities
- Private Nursing Homes of localities



25. DETAILS OF THE OCCUPATIONAL HEALTH ISSUES IN THE DISTRICT

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

Occupational Health Hazard and Remedial Measures

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

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

1. Silicosis
2. Pneumoconiosis

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

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

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

1. Noise Induced Hearing Loss
2. Contact Dermatitis caused by direct contact with chemical.
3. Pathological manifestations due to radium or radioactive substances

System of Detection of Occupational Diseases in Mines

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

- (a) Initial Medical Examination of persons to be employed in mines.
- (b) Periodic Medical Examination once every five years. General physical examination, chest radiographs, lung function tests and audiometric.
- (c) Classification of chest radiographs of workers as per ILO Classification.
- (d) Medical examination within one year of superannuation.
- (e) Evaluation of all cases of suspected pneumoconiosis by Pneumoconiosis Medical Board.
- (f) Maintenance of medical records till the person is in service and 10 years thereafter. The cases of silicosis detected during health surveillance programme are referred to Pneumoconiosis Medical Board of the mining companies for evaluation and certification. If certified, the case is notified to the enforcement authority and evaluated for disability and payment of compensation. Many cases of silicosis and other pneumoconiosis go undetected and a large number of cases of silicosis are misdiagnosed due to lack of training of medical professionals.



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



G20

कार्यालय-असैनिक शल्य चिकित्सक-सह-मुख्य चिकित्सा पदाधिकारी, बोकारो

E-Mail id:- csbokaro4@gmail.com

पत्रांक 3622 /

प्रेषक

असैनिक शल्य चिकित्सक-सह-
मुख्य चिकित्सा पदाधिकारी, बोकारो।

सेवा में

जिला खनन पदाधिकारी,
बोकारो।

बोकारो/दिनांक 10/12/2024

विषय :-

Silicosis & T.B. के मरीजों के संबंध में।

प्रसंग :-

आपके पत्रांक 1728/खनन बोकारो दिनांक 04.12.2024।

नहारायण

उपरोक्त प्रशासनिक विषयक से संबंधित Silicosis & T.B. के मरीजों की सूचना विगत पांच वर्षों का कितना प्रपत्र में संघटित कर उपलब्ध कराई जा रही है। जो निम्नांकित है।

| Sl. No | Year | Silicosis Patients | T.B. Patients |
|--------|-----------|--------------------|---------------|
| 1 | 2019 - 20 | 0 | 2216 |
| 2 | 2020 - 21 | 0 | 1862 |
| 3 | 2021 - 22 | 0 | 3135 |
| 4 | 2022 - 23 | 0 | 3152 |
| 5 | 2023 - 24 | 0 | 3893 |

विस्थासनाजन

असैनिक शल्य चिकित्सक-सह-मुख्य
चिकित्सा पदाधिकारी, बोकारो
(10/12/2024)

Raj/DW/B/Patnaok

email:- csbokaro4@gmail.com

162



26. PLANTATION AND GREEN BELT DEVELOPMENT

27.1 Plantation and Green Belt Development in respect of leases already granted in the District;

Green belt along lease boundary and both sides of transportation road shall be developed in almost all the existing leases in the district. Maximum numbers of plants shall be planted in each year around the lease boundary and both sides of transportation road as mentioned in mining plan. Some mine owner also planted a large number of plants outside the lease area to develop green belt in the district. Neem, Sheesham, Aam, Sal, Arjun, Teak, Mahua, Ashoka, Jamun, Pipal, Banyan etc. are some important plants commonly planted in mine site of Bokaro district.

It is proposed to have a detailed record of plantation to be kept by the respective owner/agent/manager of the mine every year, which has been planted in the safety zone area and transport rout, which is statutorily required. As per the norms of the forest department, the plantation has to be carried out at the rate of 2500 local plants per hectare and along the road side, at an interval of 2 meters in the zig-zag manner in both sides.



| S.No. | Mines Name | Address of Mines | Status of Mines | Area of Mines(Ha.) | Total Plantation as per Guidelines | No of Plantation at site | Remarks |
|-------|--|--|-----------------|--------------------|------------------------------------|--------------------------|---------|
| 1 | M/s Bhole Minerals of Shri Rajesh Kumar Singh S/o – Shri Laxman Singh | Mouza – Chainpur P.S. – Balidih Circle - Chas Khata No. – 02 Plot No. – 947(P) | Working | 2.25 | 1188 | 700 | 488 |
| 2 | M/s Jai Maa Enterprises Crusher & Quarry of Shri Om Prakash Singh S/o Shri Ram Singhasan Singh | Mouza – Pailadih P.S. – Chas(M) Circle – Chas Khata No. – 40 Plot No. – 106, 108 & 109(P) | Working | 1.22 | 645 | | |
| 3 | M/s Trimurti Quarry & Crusher of Partner1: Shri Birendra Kumar Pandey S/o Late Harihar Prasad Pandey Partner2: Shri Jagdish Prasad Mahto S/o Late Deglal Mahto Partner 3: Shri Pravin Kumar Pandey S/o Late Shanti Prasad Pandey | Mouza– Taranga Circle+P.S. – Chandrapur a KhataNo.– 101 Plot No. – 1220(P) | Working | 0.39 | 206 | 93 | 113 |
| 4 | M/sKirty Enterprisesof Partner 1: Shri Yogendra Prasad S/o Shri Umacharan Mahto Partner 2: Shri Suresh Prasad S/o Shri Jagdish Mahto Partner3: Shri Arjun Prasad S/o Shri Gulabchand Kumhar | Mouza – Telo Circle + P.S. – Chandrapura Khata No. – 159, 81, 50, 149 Plot No. – 1316, 1317, 1322, 1324(P), 1319; 1320, 1321 | Working | 2.84 | 1500 | 255 | 1245 |



| | | | | | | | |
|---|---|--|---------|------|------|-----|-----|
| 5 | M/s Jyoti Minerals of Shri Mohan Lal Jain | Mouza – Kaliyadabar, P.S. – Pindrajora, Circle – Chas, Khata No. 56, 138, Plot No. 1722, 1721, 1729] 1731(P) | Working | 1.42 | 750 | 200 | 550 |
| 6 | Part. (1) Md. Ishaq Ansari S/o Late Hazi Md. Kasim Ali Ansari (2) M. G. Mustafa S/o Md. Ishaq Ansari | Mauza – Amainagar, P.S. + Circle – Chandankiyari, Khata No. 112, Plot No. 1505(P) | Working | 1.01 | 534 | 255 | 279 |
| 7 | Shri Vishwakarma Stone Works, Pro. Shri Sahdeo Saw, S/o Late Lamtu Saw | Mauza – Uttasara, P.S. + Circle – Petarwar, Khata No. 50, Plot No. 1115, 1116, 1117, 1118 | Working | 0.31 | 164 | 100 | 64 |
| 8 | Shri Bhagwan Singh, S/o Late Meghu Singh | Mauza – Pichri, P.S. + Circle – Petarwar, Khata No. 81, Plot No. 3071(P), 3076 | Working | 2.02 | 1067 | 90 | 977 |



| | | | | | | | |
|----|---|---|---------|-------|------|-----|------|
| 9 | Hansda Enterprises, Pro. Shri Hiralal Manjhi, S/o Late Choupa Manjhi | Mauza – Patki, P.S. + Circle – Petarwar, Khata No. 24, Plot No. 96 | Working | 1.45 | 766 | 500 | 266 |
| 10 | M/s Jharkhand Stone Works of Partner 1: Shri radhanath Soren Partner 2: Shri Somar Nayak | Mauza – Phutkadih, P.S. + Circle – Petarwar, Khata No. – 25, Plot No. 459 | Working | 1.319 | 697 | 285 | 412 |
| 11 | M/s Samleshwari Minerals of Shri Laxmi Narayan Singh S/o Late Indra Narayan Singh | Mauza – Khutri, P.S. + Circle – Jaridih, Khata No. 18, Plot No. 226(P) | Working | 2.02 | 1067 | 300 | 767 |
| 12 | M/s Jugnu Construction Company of Auth. Signatory: Shri Jwala Singh, S/o Shri Lalan Kumar Singh | Mauza – Tantri, Tola – Nutandih, P.S. + Circle – Jaridih, Khata No. 145, 147, 148, Plot No. 22(145), 3, 5, 6(P), 8(P), 20(P) (147), 19(P) (148) | Working | 1.7 | 898 | 275 | 623 |
| 13 | M/s Karni Stone Pro. Shri Bhagwan Singh, S/o Late Meghu Singh | Mauza – Khutri, P.S. + Circle – Jaridih, Khata No. 24, 66, 60, 86, Plot No. 10, 02, 2813(P), 04, 05, 06, 11 | Working | 2.428 | 1282 | 100 | 1182 |



| | | | | | | | |
|----|--|---|---------|-------|-----|-----|-----|
| 14 | M/s Khusbu Stone Mines, Pro. Shri ratan Lal Yadav, S/o Shri Gopal Lal Yadav | Mauza – Armo, P.S. – BTPS, Circle – Bermo, Khata No. 12, Plot No. – 54 | Working | 0.615 | 325 | 155 | 170 |
| 15 | M/s S.L. Enterprises Part, 1: Shri Lalji Sahu, S/o Shri Govind Nayak, 2: Shri Sarfaraz Ahmead, S/o Sahabuddin Khan | Mauza – Parasbani, P.S. + Circle – Nawadih, Khata No. 10, 08, Plot No. 2638, 2639(P) | Working | 1.63 | 861 | 100 | 761 |
| 16 | Shri Amit Kumar, S/o Late Anil Kumar Sahu | Mauza – Bagiyari, P.S. – Kasmar, Khata No. – 18, 173, 206, 207, Plot No. 1954, 1999(P), 2001, 2003 to 2007(P) | Working | 1.07 | 565 | 100 | 465 |

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



M/s. JUGNU CONSTRUCTION CO.

Ref. No. JCCM-2626

Date: 10/11/2024

To,
The District Mining Officer
Bokaro (Jharkhand)

Sub: DER Approval for Minor Minerals

Respected Sir,

As per above subject plantation work of 225 plants has been done in my mining lease area at Village-Mandohi Tandi Khatia No. 145, 147 & 148 P.S. No. 22145, 3, 5, 5 (part), 20 (part), (147) and 10 (part) (145) Area 4.21 Acre in PO-PS Janki, Dist Bokaro (Jharkhand), according to the approved mining plan plantation has to be done. I will do plantation according to approved mining plan in next 06 months.

This letter is hereby submitted to your good office for documentary record.
Thanking you.

Yours faithfully

JUGNU SINGH
Partner, Jugnu Construction Company
T-61, Janki, Bokaro (Jharkhand)
User Code 020648338



HANSDA ENTERPRISES

Supply : Ironore & Others

Ref. No. ME/20/2024-25

Date: 21/11/2024

To,

The District Mining Officer
Bokaro (Jharkhand)

Sub: DER Approval for Minor Minerals

Respected Sir,

As per above subject plantation work of 500 plants has been done in my mining lease area at V/S- Ghadi, Khatia No. 24, P.S. No. 16, Area- 1.56 Acre in PO- Mikrapur, PS- Patanwar, District- Bokaro (Jharkhand). According to the approved mining plan plantation has to be done. I will do plantation according to approved mining plan in next 06 months.

This letter is hereby submitted to your good office for documentary record.
Thanking you.

Your faithfully

Hansda Singh
Hansda Singh
V/S- Tamrauhampur, Bokaro
Bokaro (Jharkhand)

M/S JHARKHAND STONE WORKS

ADD- PUTAURA, USUDA, BOBbili, JHARKHAND (BOKRO)
CONTACT NO. 9836202424, 9836202424
BOKRO INDIA STEEL & IRON WORKS

DATE: 05/11/2024

To,
The District Mining Officer,
Bokaro, Jharkhand

Sub: DER Approval for Minor Minerals

Respected Sir,

As per above subject plantation work of 385 plants has been done in my mining lease area at V/S- Putaura, Dist. No. 25, P.S. No. 42 (PP), Area 0.25 acre in PO- Usgada PS- Patanwar, Tamrauhampur (Jharkhand). According to the approved mining plan plantation has to be done. I will do plantation according to approved mining plan in next 06 months.

This letter is hereby submitted to your good office

for documentary record.

Thanking you.

Yours faithfully

Suman Jyoti
M/S Suman Singh
V/S Putaura, PO-
Usgada, PS Patanwar
District Bokaro
Jharkhand



SHREE VISHKARMA STONE WORKS

ADDRESS - JHARKHAR, PS- BOBBI, DIST- BOBBI, JHARKHAND, INDIA
DEALS IN ALL KINDS OF STONE / CRUSH AND STONE PRODUCTS

Ref. No. 27/11/2024

Date: 27/11/2024

To,
The District Mining Officer
Bokaro (Jharkhand)

Sub: DER approval for minor minerals

Respected Sir,

As per above subject plantation work of 100 plants has been done in my mining lease area at village - LITARA Khatia No - 50 Plot No - 112, 113, 114 Area - 1.11 Acre in PS - Patanwar District - Bokaro (Jharkhand) according to the approved mining plan plantation has to be done. I will do plantation according to approved mining plan in next 06 months.

This letter is hereby submitted to your good office for documentary record.

Thanking you

Your faithfully

Shree Vishkarma Singh
Shree Vishkarma Singh
V/S - Patanwar, Bokaro
Dist - Bokaro



KIRTY ENTERPRISES

REGISTRATION NO. 1234567890
 STATE OF JHARKHAND
 DISTRICT OF BOHAR

Gen. 28.11.2024

The District Mining Officer,
 Bohara, (Jharkhand)

Sub - DSR Approval for Minor Minerals.
 Requested for.

As per above subject plantation work of 100 plants has been done in my mining lease area at VIB - Vichit, Block No- 02 Plot No- 19709 (336 Area- 2.24 Acre to PO- Madhri, PS- Patanra District- Bokaro (Jharkhand). According to the approved mining Plan Plantation had to be done. I will do Plantation according to approved Mining Plan in next 06 Months.

This letter is hereby submitted to your good office for documentary record.
 Thanking you.

Your faithfully,
 Sri Bhagwan Singh
 VIB - Bohara sub Bohara
 Bokaro (Jharkhand)

M/s. Shri Bhagwan Singh

Coal Merchant and Govt. Contractor

House No. P.O. Bohara, Dist - Bokaro (Jharkhand)

Ref. No. ~~SR/2024-25~~ Date: 28/11/2024

The District Mining Officer
 Bohara (Jharkhand)

Sub - DSR Approval for Minor Minerals.

Respected Sir,

As per above subject plantation work of 100 plants has been done in my mining lease area at VIB - Vichit, Block No- 02 Plot No- 19709 (336 Area- 2.24 Acre to PO- Madhri, PS- Patanra District- Bokaro (Jharkhand). According to the approved mining Plan Plantation had to be done. I will do Plantation according to approved Mining Plan in next 06 Months.

This letter is hereby submitted to your good office for documentary record.
 Thanking you.

Your faithfully,
 Sri Bhagwan Singh
 VIB - Bohara sub Bohara
 Bokaro (Jharkhand)

Scanned with CamScanner

M/S KARNI STONE

PROPR. - SHRI BHAGWAN SINGH

At - VIB - Vichit, Block - Jharkhand, P.O. - Bohara, Dist - Bokaro, Jharkhand, 831001
 Works for All kinds of Stone, Stone Chips, And Stone Products

Ref. No. ~~SR/2024-25~~ Date: 28/11/2024

To,
 The District Mining Officer
 Bohara (Jharkhand)

Sub - DSR Approval for Minor Minerals.

Respected Sir,

As per above subject plantation work of 100 plants has been done in my mining lease area at VIB - Vichit, Block No- 02 Plot No- 19709 (336 Area- 2.24 Acre to PO- Madhri, PS- Patanra District- Bokaro (Jharkhand). According to the approved mining Plan Plantation had to be done. I will do Plantation according to approved Mining Plan in next 06 Months.

This letter is hereby submitted to your good office for documentary record.
 Thanking you.

Your faithfully,
 Sri Bhagwan Singh
 VIB - Bohara sub Bohara
 Bokaro (Jharkhand)

M/S SHRI BHAGWAN SINGH MINERALS STONE CRUSHER

REGISTRATION NO. 1234567890
 STATE OF JHARKHAND
 DISTRICT OF BOHARA

Ref. No. ~~SR/2024-25~~ Date: 28/11/2024

To,
 The District Mining Officer
 Bohara (Jharkhand)

Sub - DSR Approval for Minor Minerals.

Respected Sir,

As per above subject plantation work of 100 plants has been done in my mining lease area at VIB - Vichit, Block No- 02 Plot No- 19709 (336 Area- 2.24 Acre to PO- Madhri, PS- Patanra District- Bokaro (Jharkhand). According to the approved mining Plan Plantation had to be done. I will do Plantation according to approved Mining Plan in next 06 Months.

This letter is hereby submitted to your good office for documentary record.
 Thanking you.

Your faithfully,
 Sri Bhagwan Singh
 VIB - Bohara sub Bohara
 Bokaro (Jharkhand)



Scanned with CamScanner

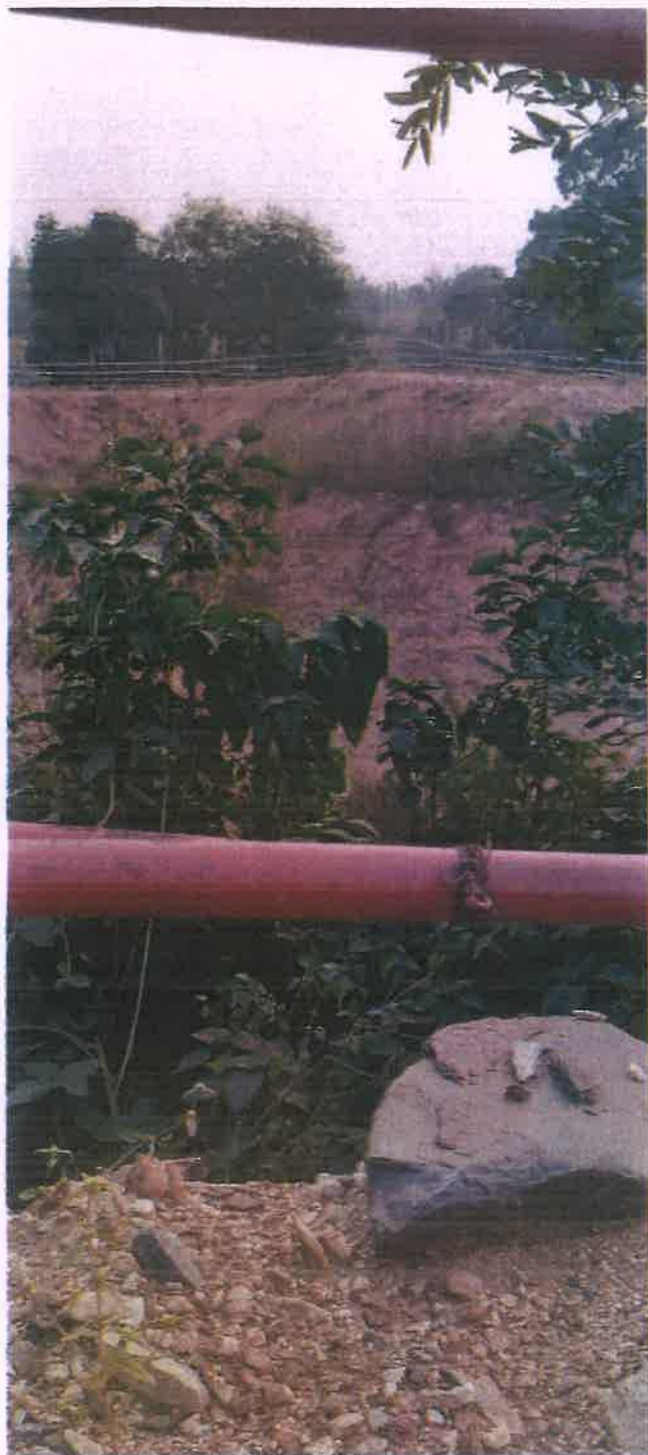


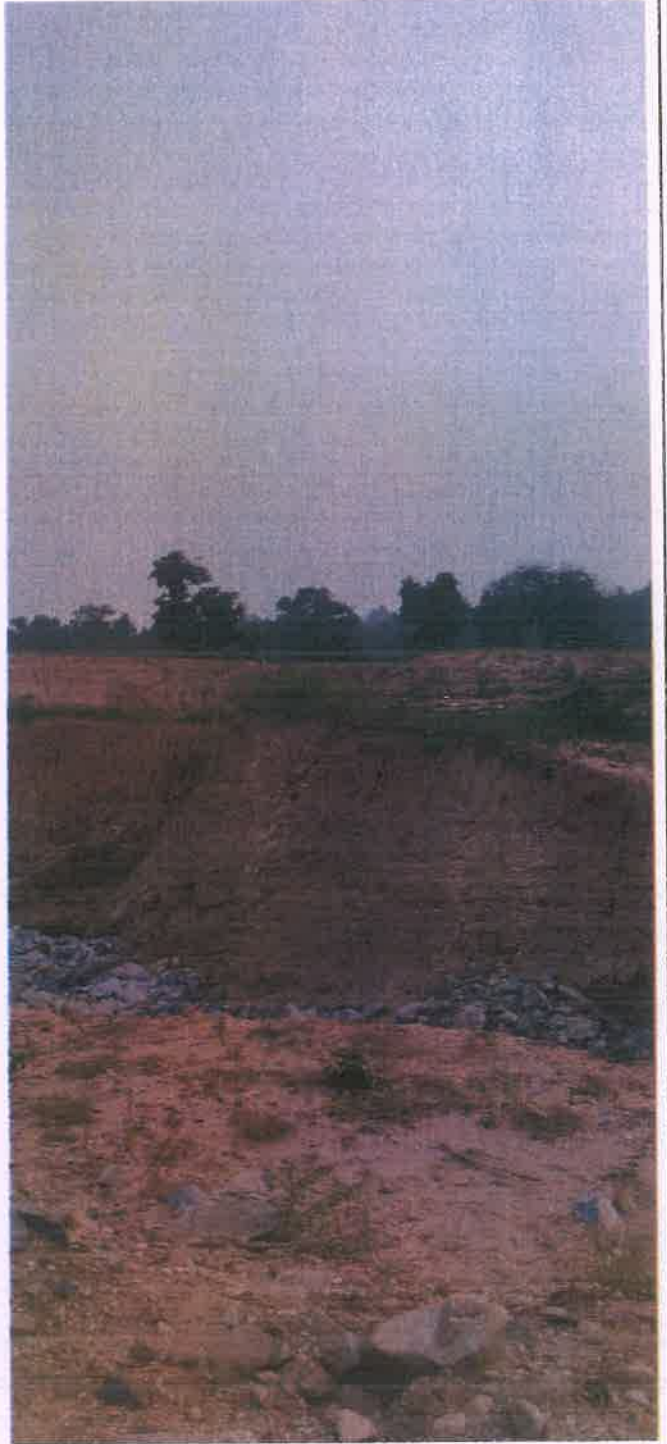
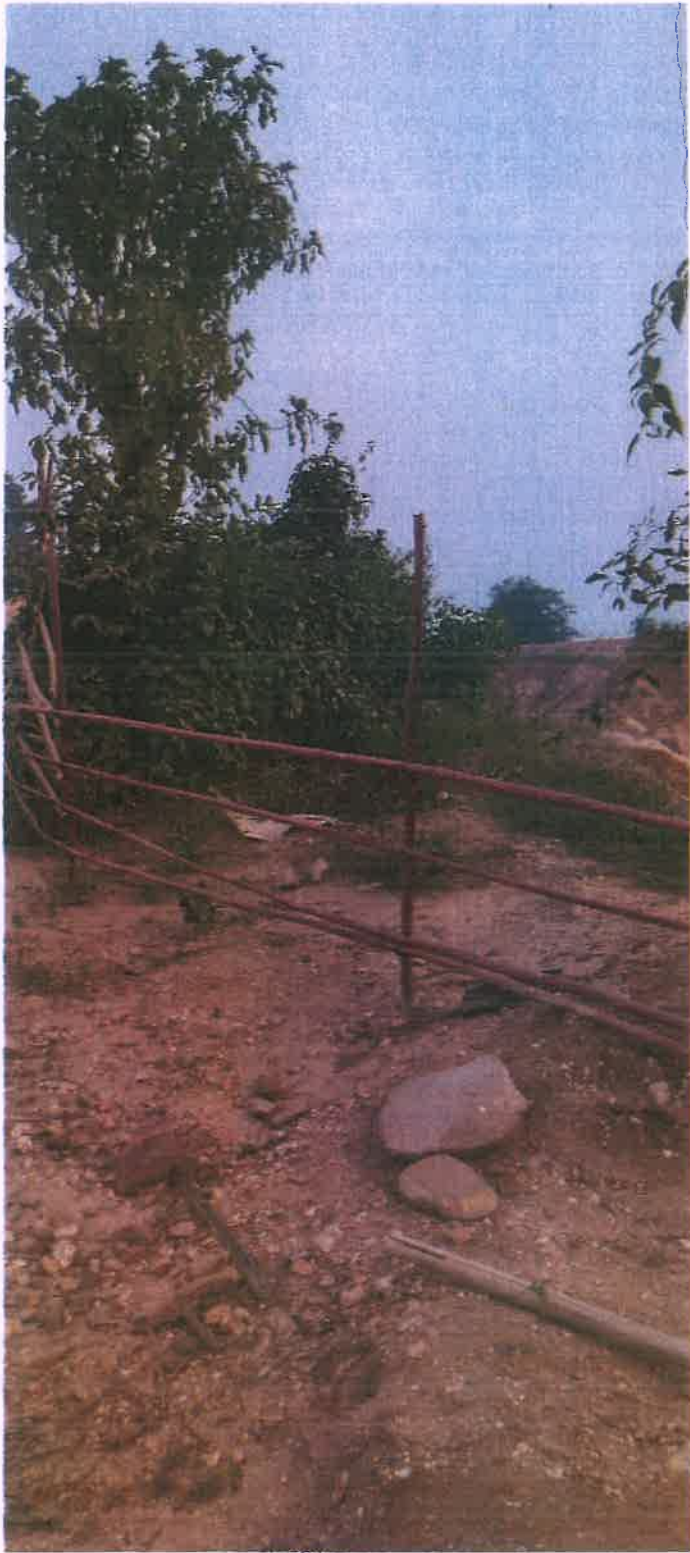


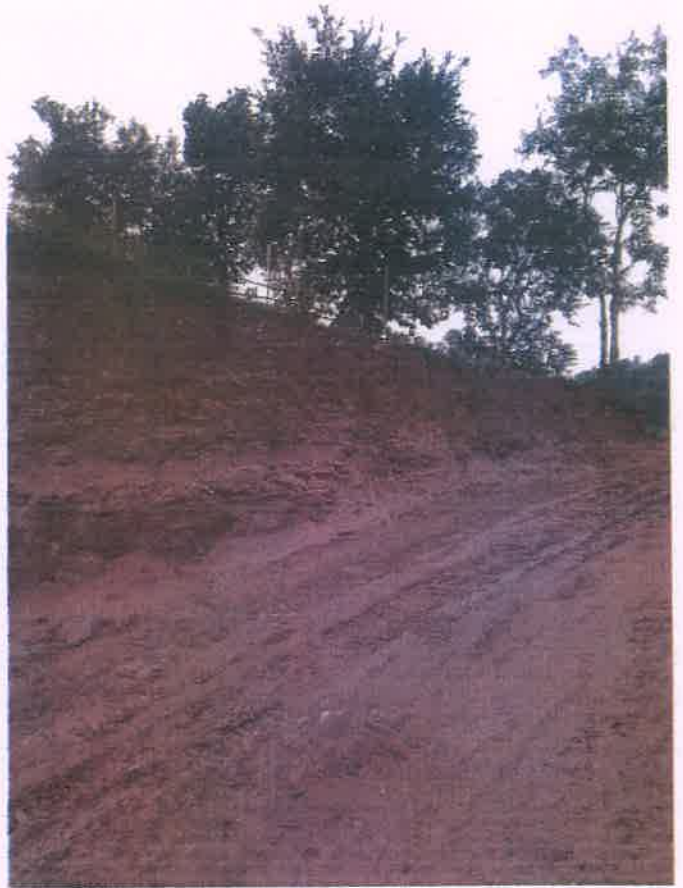












27. ADDITIONAL INFORMATION

29.1 Details of identified Potential Stone Deposits in Bokaro District of Jharkhand State:

| Sl. No. | Name of the Mineral | Details of identified Potential Stone Deposit |
|---------|---------------------|---|
| 1 | 2 | 3 |
| 1 | Stone | Mouza – Taranga P.S. – Chandrapura Khata No. – 02 Plot No. – 1425, 1427, 1429 Area – 2.85 Acres |
| 2 | Stone | Mouza – Patki P.S. – Peterwar Khata No. - 24 Plot No. – 96 Area – 3.58 Acres |
| 3 | Stone | Mouza – Bogla P.S. – Chandankiyari Khata No. – 99 Plot No. – 3676, 3735(P), 3734(P) Area – 1.535 Acres |
| 4 | Stone | Mouza – Chanpi P.S. – Peterwar Khata No. – 65, 49 Plot No. – 2528, 2529 Area – 3.40 Acres |
| 5 | Stone | Mouza – Amainagar P.S. – Chandankiyari Khata No. – 112 Plot No. – 1505(P) Area – 3.33 Acres |
| 6 | Stone | Mouza – Khuntri P.S. – Jaridih Khata No. – 66 & 24 Plot No. – 2849, 2850 (P), 2853, 2854, 2856, 2874 Area – 4.60 Acres |
| 7 | Stone | Mouza – Chainpur P.S. – Balidih Khata No. – 02 Plot No. - 943 Area – 5.24 Acres |
| 8 | Stone | Mouza – Belunja P.S. – Chas(M) Khata No. – 283, 101 Plot No. – 830, 831, 832, 834, 835, 843, 844, 845, 846, 809, 836 |



| | | |
|----|-------|---|
| | | Area – 5.13 Acres |
| 9 | Stone | Mouza – Tantri P.S. – Jaridih Khata No. – 112 & 129 Plot No. – 1345 & 1373 Area – 4.53 Acres |
| 10 | Stone | Mouza – Utasara P.S. – Peterwar Khata No. – 27 Plot No. – 1333, 1334, 1335, 1336, 1337 Area – 3.10 Acres |
| 11 | Stone | Mouza – Palkiri Thana No. - 241 Thana – Chandankiyari Khata No. – 07 & 114 Plot No. – 2564, 2565, 2567, 2572, 2573, 2576, 2577, 2566, 2570 Area – 4.38 Acres |
| 12 | Stone | Mouza – Girdhartanr Thana No. – 112 Thana – Pindrajora Dist. – Bokaro Khata No. – 01, 18, 22 Plot No. – 28, 27, 85, 86 Area – 8.46 Acres |
| 13 | Stone | Mouza – Suryadih Thana No. – 197 Thana – Siyaljori Dist. – Bokaro Khata No. – 615, 616, 617, 653, 654, 655, 657, 658, 675, 676, 677, 678 & 679 Area – 4.14 Acres |
| 14 | Stone | Mouza – Chandipur Thana No. – 266 Thana – Barmasia, Chandankiyari Dist. – Bokaro Khata No. – 18 & 36 Plot No. – 225, 226, 227, 263, 264(P), 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 297(P). Area – 4.77 Acres |
| 15 | Stone | Village – Nawadih Thana No. – 52 Thana – Peterwar Dist. – Bokaro Khata No. – 103, 123, 122, 116 Plot No. – 213, 214, 217, 218, 220 Area – 0.594 Acres |



| | | |
|----|-------|--|
| 16 | Stone | Mouza – Girdhartanr Thana No. – 112 Thana – Pindrajora Dist. – Bokaro Khata No. – 01 Plot No. – 28 Area – 2.86 Acres |
| 17 | Stone | Mouza – Girdhartanr Thana No. – 112 Thana – Pindrajora Dist. – Bokaro Khata No. – 18 Plot No. – 19(P), 20(P), 21, 22, 23, 24, 25, 26, 27(P) Area – 5.00 Acres |
| 18 | Stone | Mouza – Girdhartanr Thana No. – 112 Thana – Pindrajora Dist. – Bokaro Khata No. – 18 & 1 Plot No. – 27, 28 Area – 4.33 Acres |
| 19 | Stone | Mouza – Bagiari Thana No. – 100 Thana – Kasmar Dist. – Bokaro Khata No. – 207, 18, 173 Plot No. – 1956, 1954, 1997, 1999, 2003, 2004, 2005, 2000, 1998, 1957 Area – 3.26 Acres |

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

References:

- www.bokaro.nic.in
- District Mining Office – Bokaro
- District Forest Office – Bokaro
- CGWB Report of Bokaro
- India State of Forest Report, 2021
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