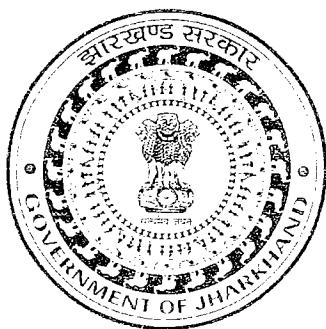




DHANBAD DISTRICT SURVEY
REPORT
FOR
MINOR MINERAL (STONE)
OTHER THAN SAND MINING OR RIVER BED
MINING



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

District survey Report for Minor Minerals other than sand (Stone)

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Recommended by Sub-Divisional Committee and Deputy Commissioner, Dhanbad

**Regional Officer, State Pollution Control Board
Dhanbad**

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Sub-Divisional Officer, Dhanbad

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23.09.24

**Executive Engineer, Minor Irrigation,
Dhanbad**

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Assistant Director, Geology, Bokaro

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District Mining Officer, Dhanbad

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Divisional Forest Officer, Dhanbad

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23/9/24

Deputy Commissioner, Dhanbad

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23.9.24

Approved By :

State Level Environment Impact Assessment Authority, Jharkhand

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21/12/24
Chairman

State Level Environment Impact
Assessment Authority, Jharkhand

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21/12/24
Member Secretary

State Level Environment
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Member

State Level Environment Impact
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CHAPTER - 1 INTRODUCTION

The Objectives of the District Survey Report are as following:

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

1.1 Statutory Frame Work

The MoEF & CC vide notification S.O. 3611 dt. 25/07/2018 provided the details on structure of District Survey Report for minor minerals other than sand.

1.2 Structure of District Survey Report as per MOEF & CC

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

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

- Introduction
- Overview of Mining Activity in the District
- General Profile of the District
- Geology of the District
- Drainage of Irrigation pattern
- Land Utilisation Pattern in the District: Forest, Agricultural, Horticultural, Mining etc.
- Surface Water and Ground Water scenario of the district
- Rainfall of the district and climatic condition
- Details of the mining leases in the District as per the following format:-

District survey Report for Minor Minerals other than sand (Stone)

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

Date of commencement of Mining Operation	Status (Working / Non Working / Temp. Working for dispatch etc.)	Captive/ Non-Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with date of grant of EC.	Location of the Mining lease (Latitude & Longitude)	Method of Mining (Opencast / Underground)
11	12	13	14	15	16

- Details of Royalty or Revenue received in last three years.
- Details of Production of Minor Mineral in last three years.
- Mineral Map of the District.
- List of Letter of Intent (LOI) Holders in the District along with its validity as per the following format:-

Sl. No.	Name of the Mineral	Name of the Lessee	Address & Contact No. of Letter of Intent Holder	Letter of Intent Grant Order No. & date	Area of Mining lease to be allotted	Validity of LoI	Use (Captive/ Non-Captive)	Location of the Mining lease (Latitude & Longitude)
1	2	3	4	5	6	7	8	9

- Total Mineral Reserve available in the District.
- Quality /Grade of Mineral available in the District.
- Use of Mineral.
- Demand and Supply of the Mineral in the last three years
- Mining leases marked on the map of the district.
- Details of the area of where there is a cluster of mining leases viz. number of mining leases, location (latitude and longitude).
- Details of Eco-Sensitive Area, if any, in the District.

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- Impact on the Environment (Air, Water, Noise, Soil, Flora & Fauna, land use, agriculture, forest etc.) due to mining activity.
- Remedial Measures to mitigate the impact of mining on the Environment.
- Reclamation of Mined out area (best practice already implemented in the district, requirement as per rules and regulation, proposed reclamation plan).
- Risk Assessment & Disaster Management Plan.
- 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).
- Plantation and Green Belt development in respect of leases already granted in the District.
- Any other information.

Chapter – 2 Overview of Mining Activity in the District

Dhanbad occupies a very vital position in Indian economy as it is the only storehouse of prime coking coal and accounts of over 30% of the total coal production in the country. Coal mines in the district belongs to TISCO (Tata Iron & Steel Company), BCCL (Bharat Coking Coal Limited), ECL (Eastern Coal- Fields Limited) and IISCO (Indian Iron & Steel Company). Extraction of minor minerals such as stone and sand is being done in the district.

Major Mineral - Coal

Minor Mineral - Sand, Stone & Brick Earth Sub – Soil , Fire Clay

However, presently there are 27 running leases in the district for general stone. Details are given in table 12 as per the format provided by MoEF & CC.



Figure 1 Mineral Map of the District

Chapter – 3 General Profile of the District

3.1 Introduction

The Dhanbad was formed in the year 1956 by carving out the old Dhanbad sub-divisions, Chas and Chandankiyari Subdivision of the former Manbhum District. The district has total area of 2074 sq. km. and is located between 23° 26' - 24° 01' North latitude to 86° 10' - 86° 48' East longitude. Area is included in Survey of India Toposheet nos 73I/1, 73I/2, 73I/5, 73I/6, 73I/7 73I/9, 73I/10, 73I/13 and 73I/14 of Survey of India (1:50000 scale).

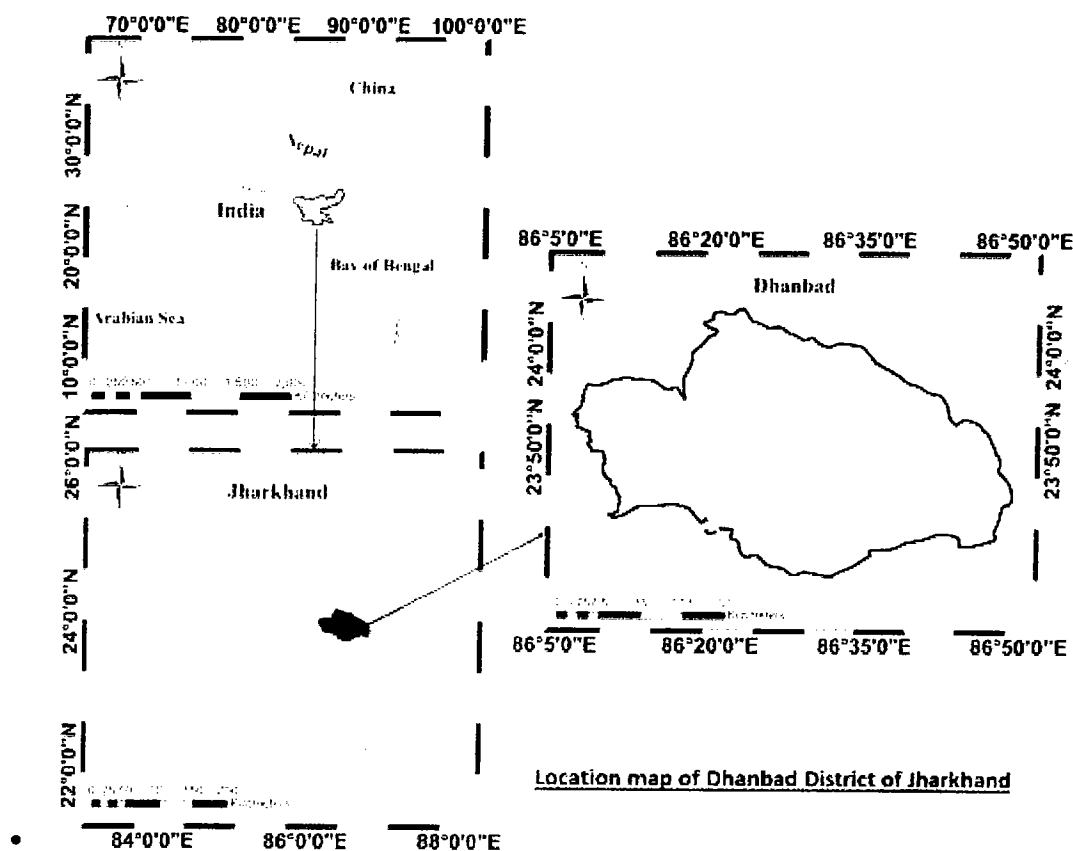
The district is one of the leading industrially developed regions of Jharkhand. It is famous as 'Coal Capital'. There are mainly two PSUs coal lifting organizations functioning in the district namely Bharat Coking Coal Limited (BCCL) and Eastern Coalfield Limited (ECL) under the Coal India Limited. Besides the above two PSUs, IISCO and TISCO are also lifting coal from the district. The total geographical area of the district is about 2040 Sq. Km.

The Dhanbad district in Jharkhand is located in the following directions:

West: Giridih and Bokaro

North: Giridih and Dumka

East and south: Purulia district of West Bengal



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3.2 Administrative Setup

Dhanbad district lies in the mid eastern part of Jharkhand state. Giridih bound it in the north, Bokaro in the west, Purulia district in the south and Jamtara district in the east. It is connected through NH-2 and NH-32 from state capital and different district headquarters of the state.

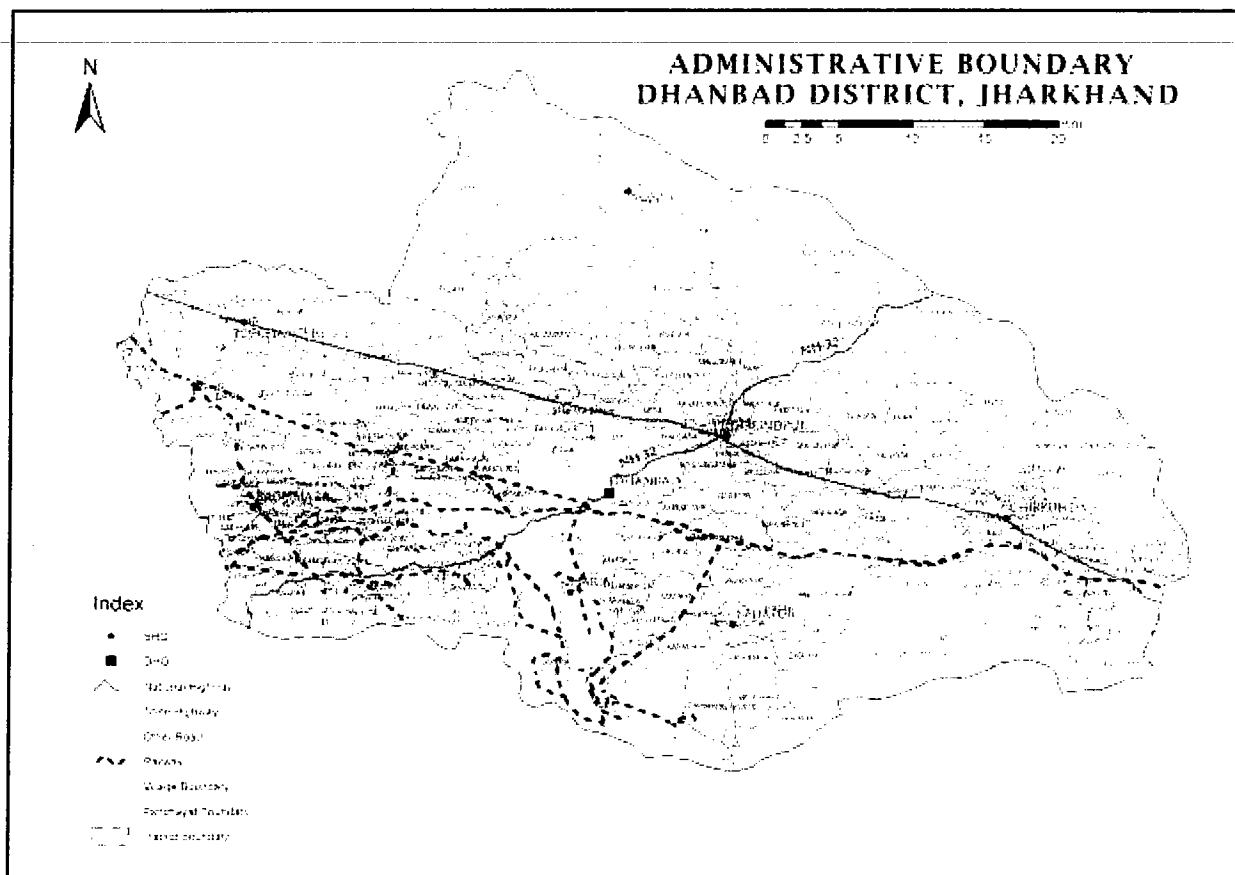


Figure 2 - Administrative boundary of Dhanbad District (Source: JSAC)

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Table 1. : List of Administrative and Development units:

Districts	1 (One)	Dhanbad
Sub-Divisions	1 (One)	Dhanbad
Block	10 (Ten)	Dhanbad, Baghmara, Nirsa, Topchanchi, Tundi, Purbi Tundi, Govindpur, Baliapur, Egarkund and Kaliasole
Village	1209 (As per 2001 Census)	
Revenue Inspector Circle	9 (Nine)	Dhanbad, Jharia, Baghmara, Nirsa, Topchanchi, Tundi, Purbi Tundi, Govindpur and Baliapur
Panchayat	383 (As per old gazatteer) 256(As per new gazatteer)	
Dhanbad Municipal Corporation	1 (One)	Dhanbad Municipal Corporation

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3.3 Demographics

Table 2 District Demographic data (As per Census 2011)

Number of Villages	1,209		
Number of Household	5,05,568		
Population	26,84,487	15,60,394	11,24,093
Male Population	14,05,956	8,24,000	5,81,956
Female Population	12,78,531	7,36,394	5,42,137
Sex Ratio	909	894	932
Literates	17,22,204 (74.52 %)	10,14,950 (83.81%)	7,07,254 (64.29%)
Scheduled Caste	4,37,309 (16.29%)	2,26,362 (16.10%)	2,10,947 (16.50%)
Schedule Tribes	2,33,119 (8.68%)	1,17,256 (8.34%)	1,15,863 (9.06%)
Worker	8,44,504 (31.46%)	6,58,851 (46.86%)	1,85,653 (14.52%)
Main Worker	5,46,714 (20.37%)	4,76,848 (33.92%)	69,866 (5.46%)
Marginal Worker	2,97,790 (11.09%)	1,82,003 (12.95%)	1,15,787 (9.06%)
Non-Worker	18,39,983 (68.54%)	7,47,105 (53.14%)	10,92,878 (85.48%)
Cultivators	97,118 (11.50%)	53,325 (8.09%)	43,793 (23.59%)
Agricultural Labourers	1,03,488 (12.25%)	55,679 (8.45%)	47,809 (25.75%)
Workers in household Industry	25,889 (3.07%)	16,367 (2.48%)	9,522 (5.13%)
Other Worker	6,18,009 (73.18%)	533,480 (80.97%)	84,529 (45.53%)

3.4 Topography and Climate

Topographically the district can be divided into 3 regions: First, the north and north western portions consisting of the hilly regions. Second, the uplands containing coal mines and most of the industries and third remaining uplands and

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plains lying to the south of the Damodar River consisting of cultivable flat lands. The climate of the district is characterized by general dryness. It is very pleasant during the cold weather from November to February. Thereafter the climate becomes warm. The average rainfall during July is 287 mm and that in August 445 mm. The average annual rain fall in the district is approximately 1300 mm. The soils of the district are mostly of the residual type. High temperature and high rainfall have led to the formation of lateritic type of soils from rocks of Archean metamorphic complex exposed in the greater part of the district and also from the lower Gondwana rocks in the west-central and east central parts.

3.5 Connectivity:

In recent years Dhanbad well known as 'The Coal Capital of India' has emerged as one of the fastest growing cities in the country. Major industrial establishments and commercial activities have made this city a major commercial hub in eastern India. In the last few years the city has seen lot of developmental work resulting in its rapid expansion. The city has also progressed in terms of transportation network with upgradation of city roads connecting it to state and national highways. The city is well connected to various parts of the country via roadways and railways.

Road network in Dhanbad:

Dhanbad is well connected through road network with all major cities in India. Most favorable thing for Dhanbad is two major highways passing through it which provide perfect road connectivity with other cities. One of these major highways is National Highway 2, also known as Golden Quadrilateral (GQ), that starts from Kolkata and ends at Delhi. Other one is National Highway 32 which starts from Govindpur and runs through Bakaro-Jamsedpur-Barbil providing proper road connectivity to this city. Dhanbad is located just off the Golden Quadrilateral (GQ) which is also popular as National Highway 2 or NH2. Dhanbad is connected with Ramgarh via Chas and Bokaro Steel City and with Ranchi via Chas and Muri. Being bestowed with good road networks, Dhanbad easily manages to connect with major places in the country.

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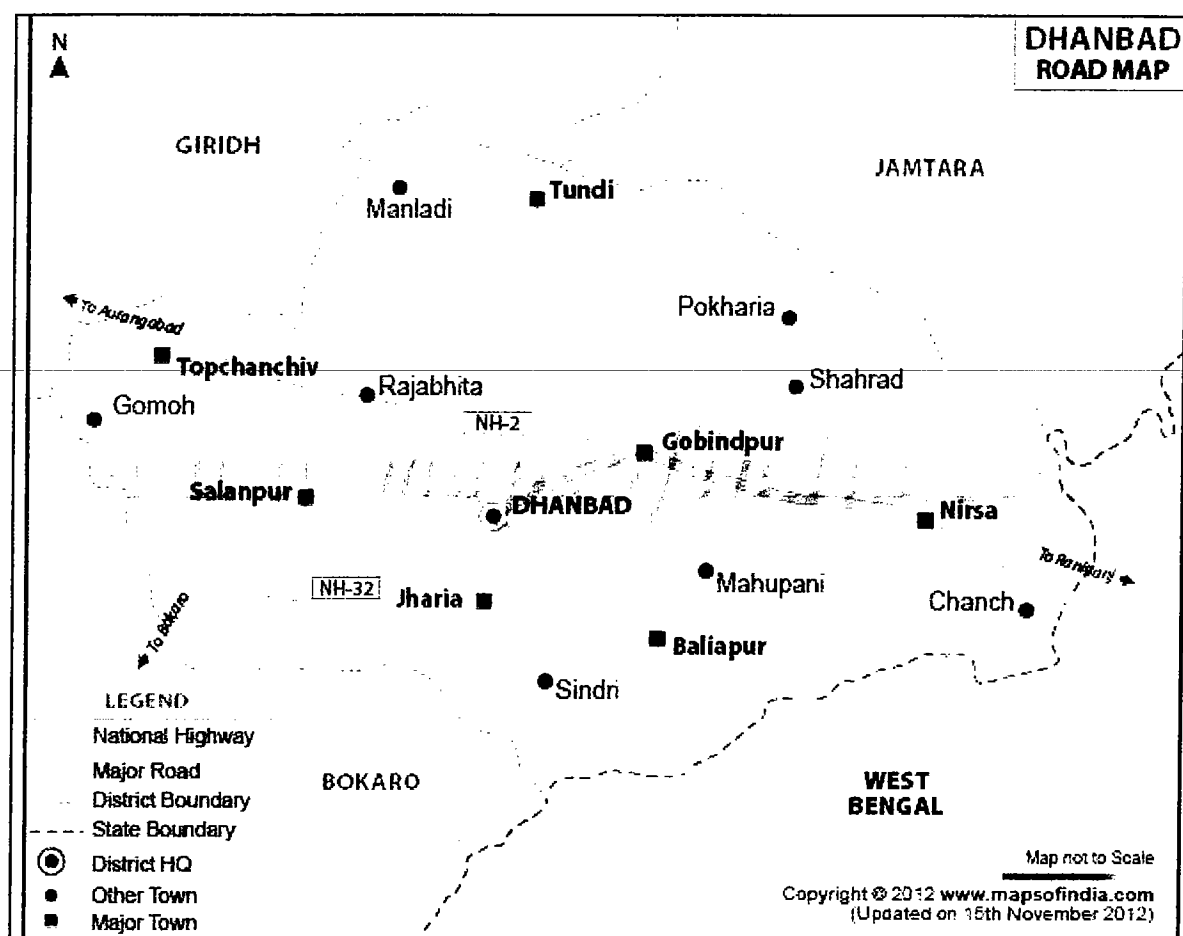


Figure 3 - Road map of Dhanbad District (Source: www.mapsofindia.com)

Railways in Dhanbad:

Dhanbad junction is one of the busiest junction in Jharkhand and witness influx of passengers throughout the year. It is well connected with all states through rail network. Dhanbad Rail Division comes under East Central Railway Zone of India and it is famous for being second highest revenue generating rail division in India. It is enough to describe its perfect rail services. All major cities of India like Delhi, Mumbai, Kolkata, Chennai, Ahmedabad, Bhopal, Hyderabad, Gwalior, Kochi, Indore, Jaipur, Jodhpur, Jabalpur, Nagpur etc. are well connected with Dhanbad through extensive rail network.

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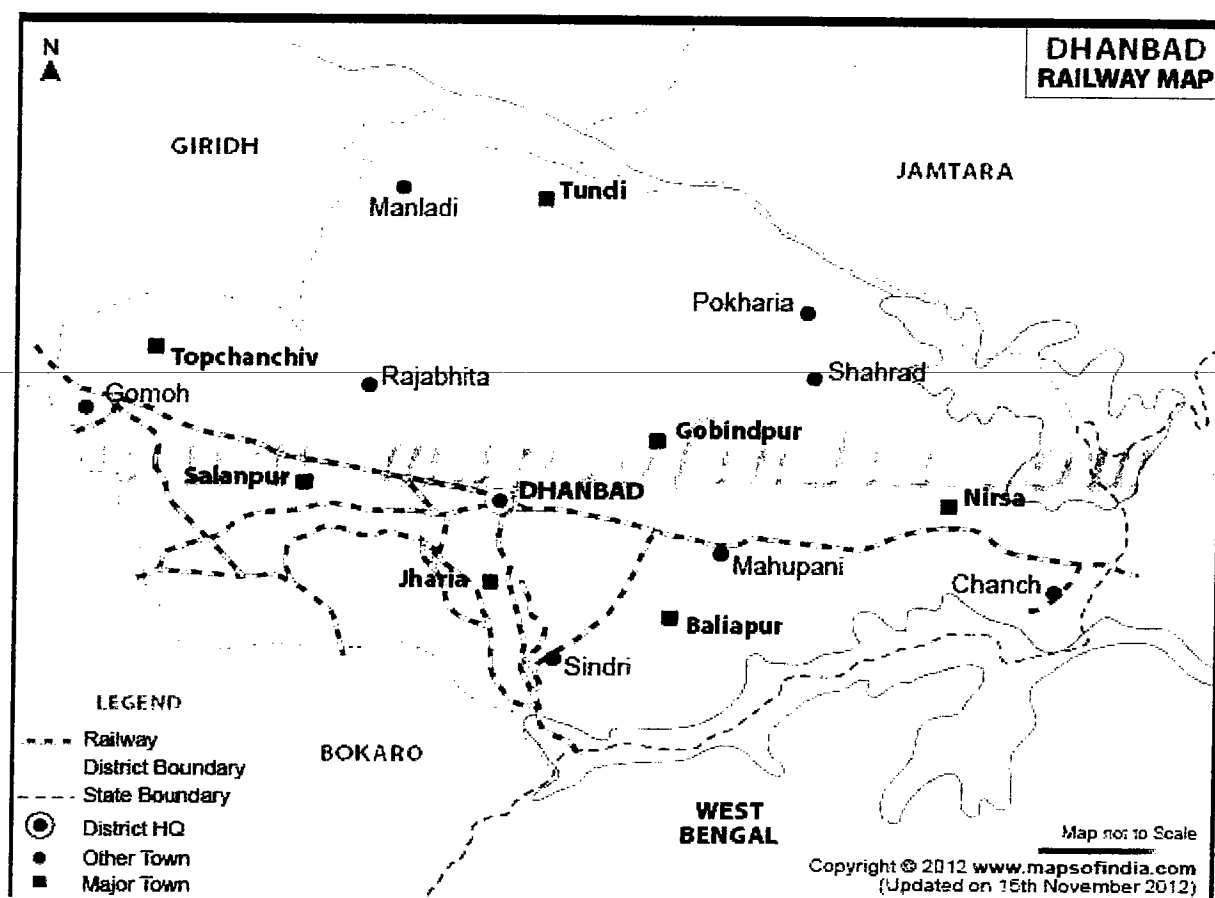


Figure 4- Railway map of Dhanbad District (Source: www.mapsofindia.com)

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3.5 Drainage

The drainage system of the district is the part of Damodar sub-basin. All the rivers that originate or flow through the district have an easterly or south easterly course. The Damodar is the most important river with an easterly course for about 125 km. streams as Jamunia, Katri, and Pusai are originating from northern hills of Parasnath and Tundi areas.

FIG 2: DRAINAGE MAP OF DHANBAD DISTRICT, JHARKHAND

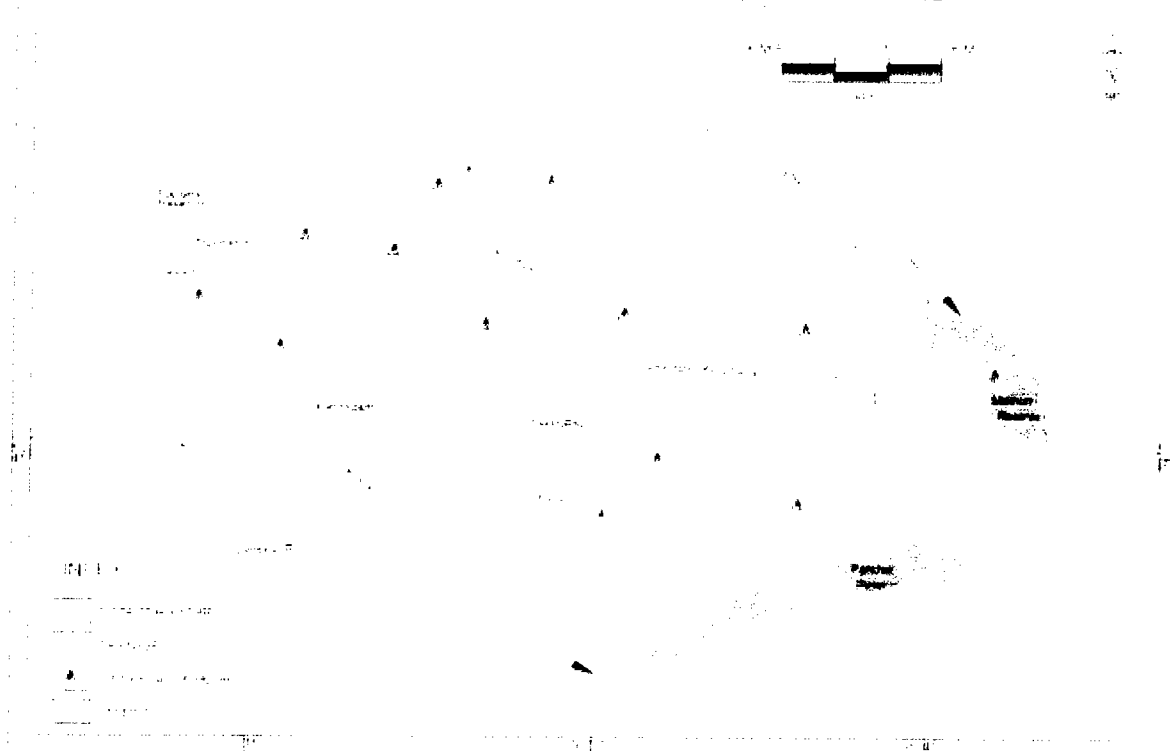


Figure 5 Drainage map of Dhanbad district (Source-CGWB)

Chapter – 4 Geology of the District

East On the industrial map of India, Dhanbad has a special place of Importance. It is chiefly on account of its Coking coal collieries. The famous Jharia coalfield is situated in Dhanbad district. The Jharia coalfield has been exploited and still under exploitation. Geological formation of the Dhanbad district comprises of mainly rocks of Archaean, Vindhyan and Gondwana ages, the last cut by dykes of Deccan trap age. Archaean rocks include both schists of Dharwar age and gneisses and granites. Schists, mainly horn-blendic and biotitic, are the oldest rocks of the area and occur as parallel and lenticular bands in the gneisses. Schists are intruded by epidiorites, amphibolites, and gneisses, Garneti ferrous sillimanite, graphite-schist, similar to Khondalites. Smaller patches of these rocks are found in the manner of inclusions in the most prevalent, and biotite and sillimaniteschists' are rare. Gneisses and granites are, however, the most predominant rocks of the area as in other parts of Chotanagpur. They give rise to prominent groups of hills in the northern and southern parts of the district.

The metamorphic terrain of the Dhanbad district is underlain by a wide range of geological formations ranging in age from Archaean to Recent. The Archeans and Gondwanas constitute the major parts. Thin veneer of Quaternary alluvial deposits occurs in the topographic depressions along the Damodar and Barakar River.

Table 3 : Geological Succession of the District

Age	Formation	Litho-type
Jurassic or Tertiary	Dolerite dyke Mica Lamprophyre Sills & dykes	
Upper Permian	Raniganj	Fined grained feldspathic sandstone, shale and coal seams
Middle Permian	Barren Measures	Buff colored sandstone. shale and carbonaceous shale
Lower Permian	Barakar	Buff colored coarse and medium grained feldspathic sandstone. grits shale and carbonaceous shale and coal
Upper	Talchir	Greenish shale and fined grained sandstone
	<u>Unconformity</u>	
Archean	Metamorphic	Peliticschists, quartzites, para- and ortho- amphibolites.

Source: Geological succession proposed by Prof D Chandar (1992)

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Chapter – 5 Drainage of Irrigation pattern

The area comprises a gently rolling terrain of low relief with low, humpy, rocky elevations with a thin superficial cover of sandy loam and wide flat depression with clay and soil cover. The average topographic height of the area is about 150 metres above the Mean Sea level. The highest elevation is 445 m to the NW part of the area. Major rivers in the area are BarakarNadi, RajoyaNadi, tributary of BarakarNadi in the north flowing towards South and form the Maithon reservoir which later meets the Damodar River. General slope direction of the area here is towards south. The central part of the area forms a water divide where streams flow upstream toward Barakar and southwards to PusaiNadi and KhudiyaNadi. In the Southern part of the area surface run off is towards Pusainadi and Khudiya nala both conjoins near Mugma village and flow further southwards. The drainage pattern of the area is sub-parallel and sub-dendritic. The drainage map of Dhanbad district is given in figure-4.

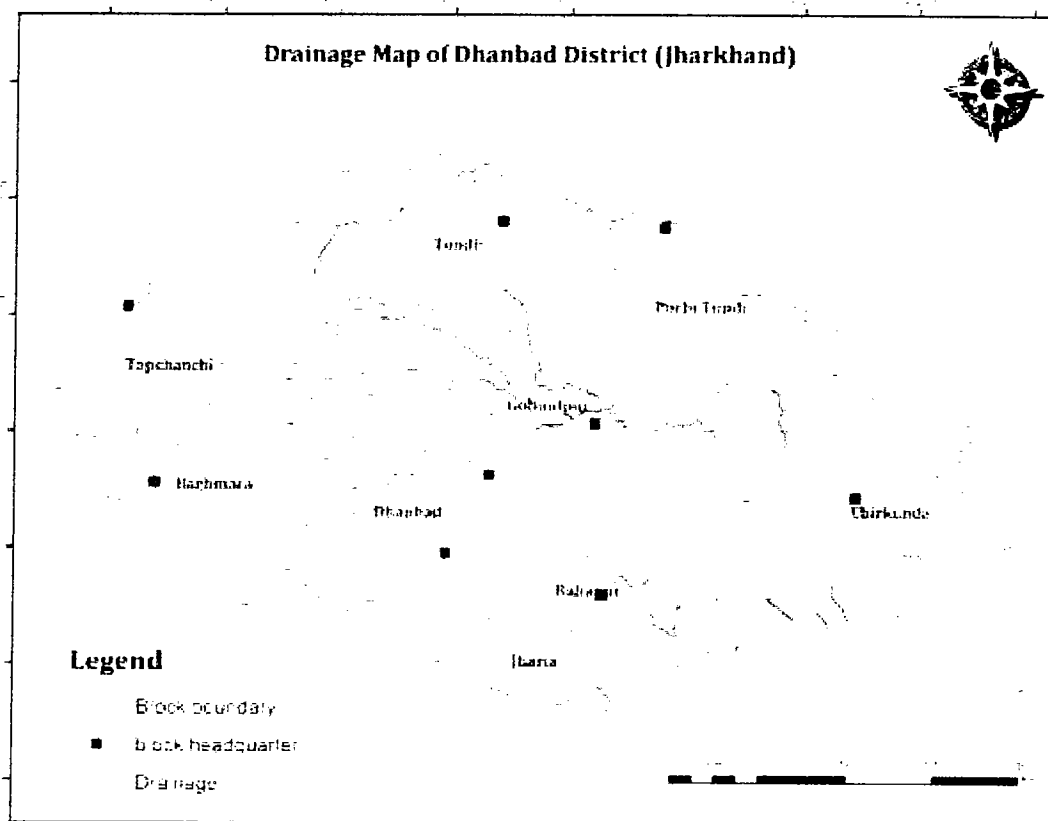


Figure 7 - Drainage Order Map of Dhanbad (Source-CGWB)

Chapter – 6 Land Utilisation Pattern in the District: Forest, Agricultural, Horticultural, Mining etc.

Table 4 Land utilisation pattern in the district

Land Utilization Pattern, Dhanbad district for FY 2017-18, Source: District Statistics Office, Dhanbad														
Block name	Area (sq km)	Forest area (sq km)	Usar and Non-agricultural Land (sq km)	Non-Agricultural land (sq km)				Permanent pastures and grazing land (sq km)	Land under miscellaneous uses (sq km)	Other fallow land (total to 5 years) (sq km)	Current fallow land (sq km)	Total fallow land (columns 12 + 13)	Net area (sq km)	
				Land area	Water area		Agricultural barren land (sq km)							
					Permanent	Seasonal								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
Dhanbad	128.21	2.13	40.24	41.36	3.07	0.83	6.13	0.125	0.007	19.17	12.45	126.04	2.172	
Baria	102.29	0.00	13.17	52.97	7.46	0.82	10.14	1.84	0.00	1.76	24.20	102.29	0.00	
Bahupur	188.76	3.78	18.44	42.26	1.07	0.40	0.73	2.76	2.23	54.80	24.14	160.68	28.09	
Gobindpur	310.10	9.41	31.87	30.46	21.31	15.13	30.94	26.75	22.93	58.41	40.00	300.15	9.95	
Total	267.31	15.26	25.13	9.62	2.78	3.07	15.61	9.73	1.07	16.82	19.21	240.45	26.88	
Nasa	415.75	6.71	60.27	65.60	59.37	6.46	16.96	4.84	0.06	85.40	97.39	403.11	12.64	
Budhmaria	290.29	14.03	66.67	48.05	10.61	0.60	21.05	0.83	1.40	98.17	36.21	282.09	8.19	
Topchanchi	191.38	24.53	46.79	20.08	7.82	4.14	12.66	7.19	9.20	44.91	22.07	170.03	21.34	
Parbelundi	143.86	22.51	18.60	14.38	2.68	0.40	6.25	5.23	2.24	20.12	35.19	127.63	16.24	
Total	2038.03	169.50	291.23	324.52	118.24	41.33	142.57	59.13	30.82	423.62	302.48	1912.49	125.54	

Source : Aquifer Mapping and Management Of Ground Water Resources, (Central Ground Water Board)

LANDUSE & LANDCOVER MAP

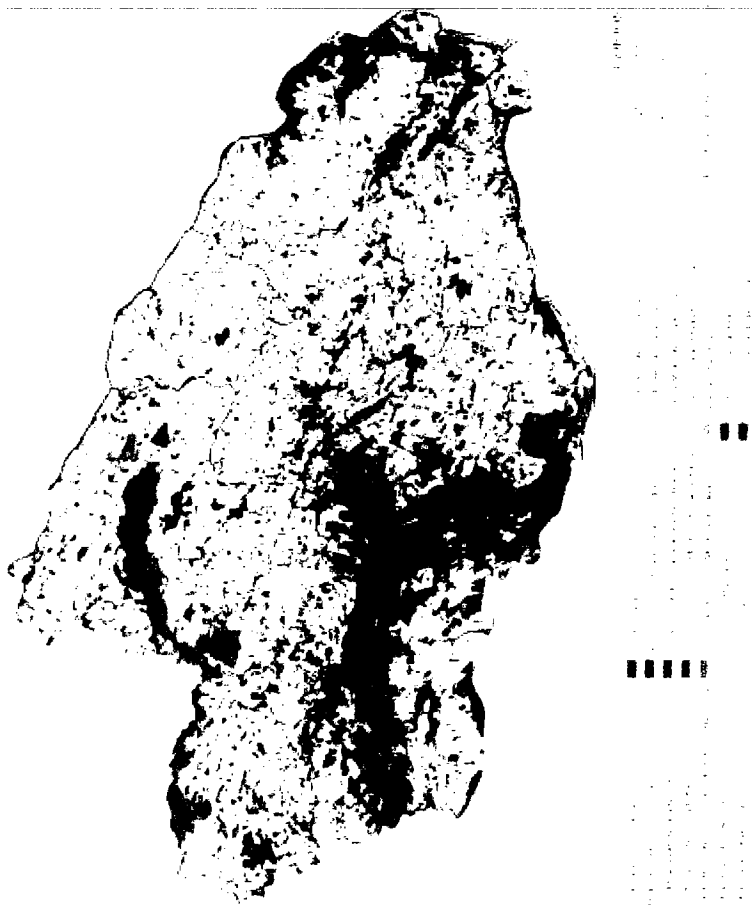


Figure 8 : Landuse & Landcover map of district (Source - ISAC)

Chapter – 7 Surface Water and Ground Water scenario of the District

7.1 Surface Water

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

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

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

(ii) **Deeper aquifers:**

Depths to water levels and groundwater conditions:

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

- a) The porous formations and
- b) The fissured formations

a) The porous Formations:

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

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b) The Fissured Formations:

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

Table 5 Dams and rivers in the district

Dams in the District					
Sl. No.	Name	Purpose	River	Length (m)	Max Height above Foundation (m)
1.	Khudia Dam	Irrigation	Khudia River	1227.12	
2.	Maithon Dam	Hydroelectric, Drinking / Water Supply	Barakar	4426	56.08
3.	Panchat Dam	Hydroelectric, Irrigation, Drinking / Water Supply	Damodar	6777	48
Rivers in the District					
S. No.	Name of the River	Total Length in the District (In km)	Place of Origin	Area drained (Sq. Km)	% Area drained in the District
1	Barakar river	66.62	Near Padma village in Hazaribag district	51.92	2.545
2	Damodar river	17.5	Near Chandwa village in Palamau district	24.91	1.221
3	Jamuniya river	27.37	originating from jamunia dam near Bishungarh	7.33	0.359
4	Khudiya river	1.16	Near Kesragrah Baghmara	4.06	0.199
5	Katri river	7.5	Parasnath Hills	1.22	0.06
6	Kudia river	15.29	Middle of villages Parasbani and Asanbani	0.58	0.028

7.2 Ground Water

Dhanbad district is having complex Hydro geological Condition. The Archaean Crystallines constituting the central and southern portions of the district are generally impermeable excepting within the Zone of weathering. Ground-water is confined in these rocks in joints, fractures, zones of shear and such other planes of weakness. The Gondwana sediments occur in basins are not generally known to be very good aquifers due to their being felspathic. The actual ground water conditions in the coalfield can be assessed only after a detailed systematic survey. The chief sources of water-supply in the coalfield are the Ragdaha reservoir at Topchanchi which supplies drinking water to Jharia and surrounding areas. The enormous expansion of the industrial zones and the mining areas has created quite a problem and sooner or later the Topchanchi dam and the reservoirs will have to be supplemented. There is an acute water scarcity in the district during the summer months and many of the villages do suffer for want of adequate water.

Within the domain of Gneissic Complex, the storage and movement of ground water are mainly controlled by numerous interconnected fractures, joints planes and fissures. In the domain of unclassified metasedimentaries, the weak planes of foliation, bedding, schistosity etc serve as aquifer zones. The shales and the sandstones of the gondwana supergroup show well developed bedding panes and joints which serve as good reservoir for groundwater storage. A few springs occur near the Damodar river within the metamorphic rocks along their faulted boundary with Gondwana Supergroups of rocks.

The occurrence and movement of ground water in the area is variable, which is broadly governed by geological frameworks i.e., nature of rock formations including their porosity (primary and secondary) and permeability. The principal aquifer in the area is Chhotanagpur Gneiss Complex, where the occurrence and movement of ground water primarily depends on the degree of interconnection of secondary pores/voids developed by fracturing and weathering. Based on morpho-genetic, geological diversities and relative ground water potentialities of the aquifers, the district can be broadly divided into three Hydrogeological units: Consolidated or Fissured formations, Semi-Consolidated and unconsolidated or Porous formations.

1. Consolidated or Fissured formations - Precambrians
2. Semi-Consolidated formations -Gondwanas
3. Unconsolidated or Porous formations - Laterites and Alluvium

In major part of this district, consolidated and Semi-Consolidated formations form the principal aquifers, which include mainly Chotanagpur gneissic complex, and Gondwanas rocks while unclassified metamorphics also found to some extent. However, in isolated areas laterites, as well as alluvial materials along the vicinity of the rivers also form potential aquifers. Hydrogeological Map of Dhanbad district is shown in figure 9.

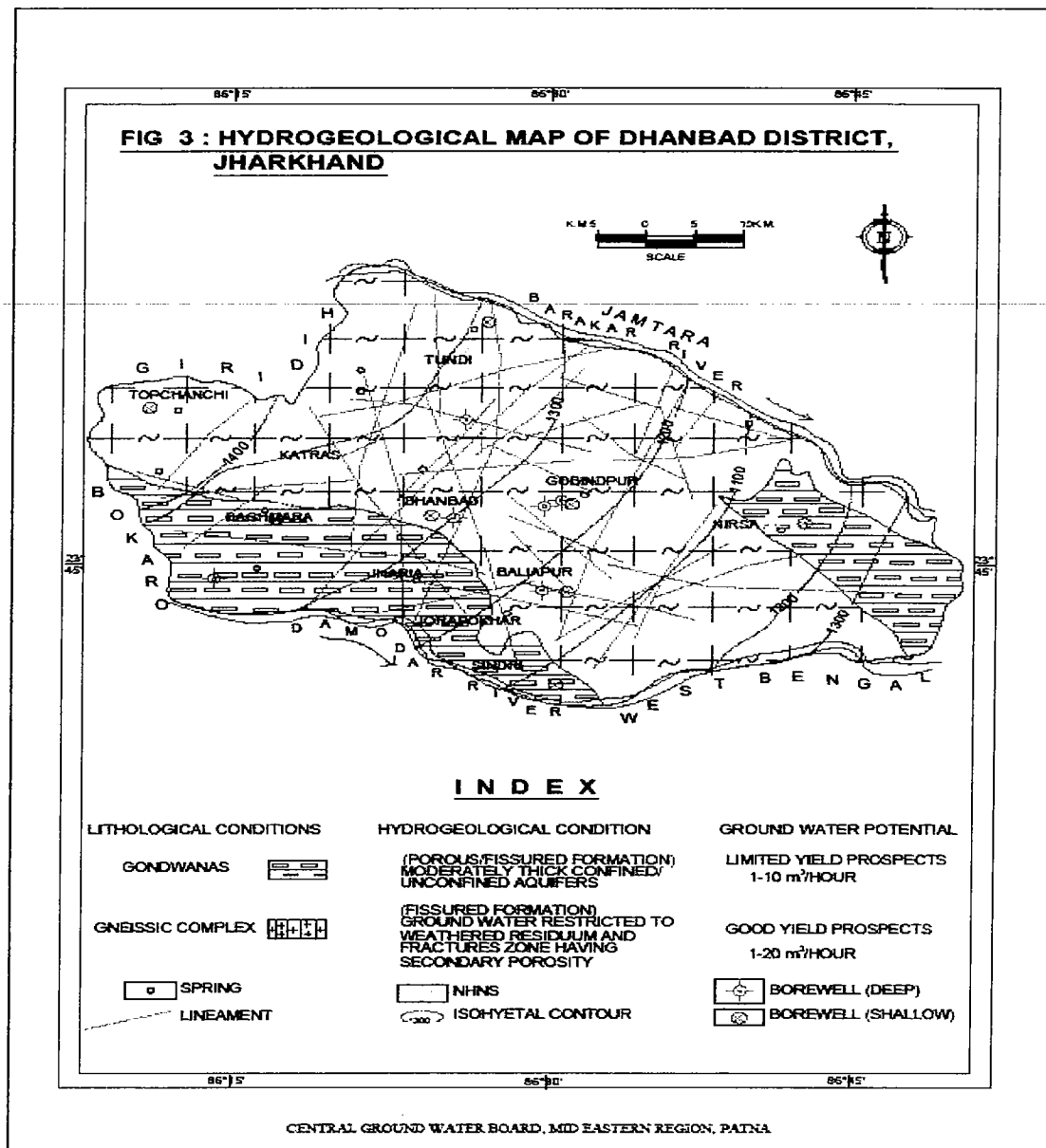


Figure 9 - Hydrogeological map of Dhanbad district (Source-CGWB)

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7.3 Depth to Water Level

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

Total 6 Number of boreholes has been constructed by CGWB in the district under groundwater exploration programme upto maximum depth of 200 m . The borehole data reveals that, in general potential fractures are encountered between 30-132 m. The other fractures have also of good potential. Table 6- shows the Potential Fracture encountered during Ground Water Exploration in Dhanbad district

Table-6 Potential Fractures encountered during ground water Exploration in Dhanbad district, Jharkhand

S. No.	Location	Block	Depth Drilled (m)	Major Lithology Encountered	Depth of casin g(m)	Potential Fracture Zone encountered(m bgl)	Discharge (lpm)
1	NNH School Bagshuma	Govindpur	153.8	Granitegneiss	19.7	40-41,71-72,103-104	108
2	KGBH school, Gopalganj (EW)	Nirsa	123	Granit gneiss	18.6	64-65, 113-114	870
3	KGBH school, Gopalganj (OW)	Nirsa	74	Granitegneiss	12.1	42-43, 64-65, 74-75	630
4	Govt. middle school, Joradih (EW)	Nirsa	153.5	Granitegneiss	24	65-66, 92-93,129-130	342

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5	Govt. middle school, Joradih(OW)	Nirsa	153.5	Granitegneiss	24.5	110-111,129-130	180
6	Saraswati Vidya mandir, RatanpurEW I	Tundi	153.5	Granitegneiss	23.8	51-52, 61-62	270

Source: (Central Ground Water Board)

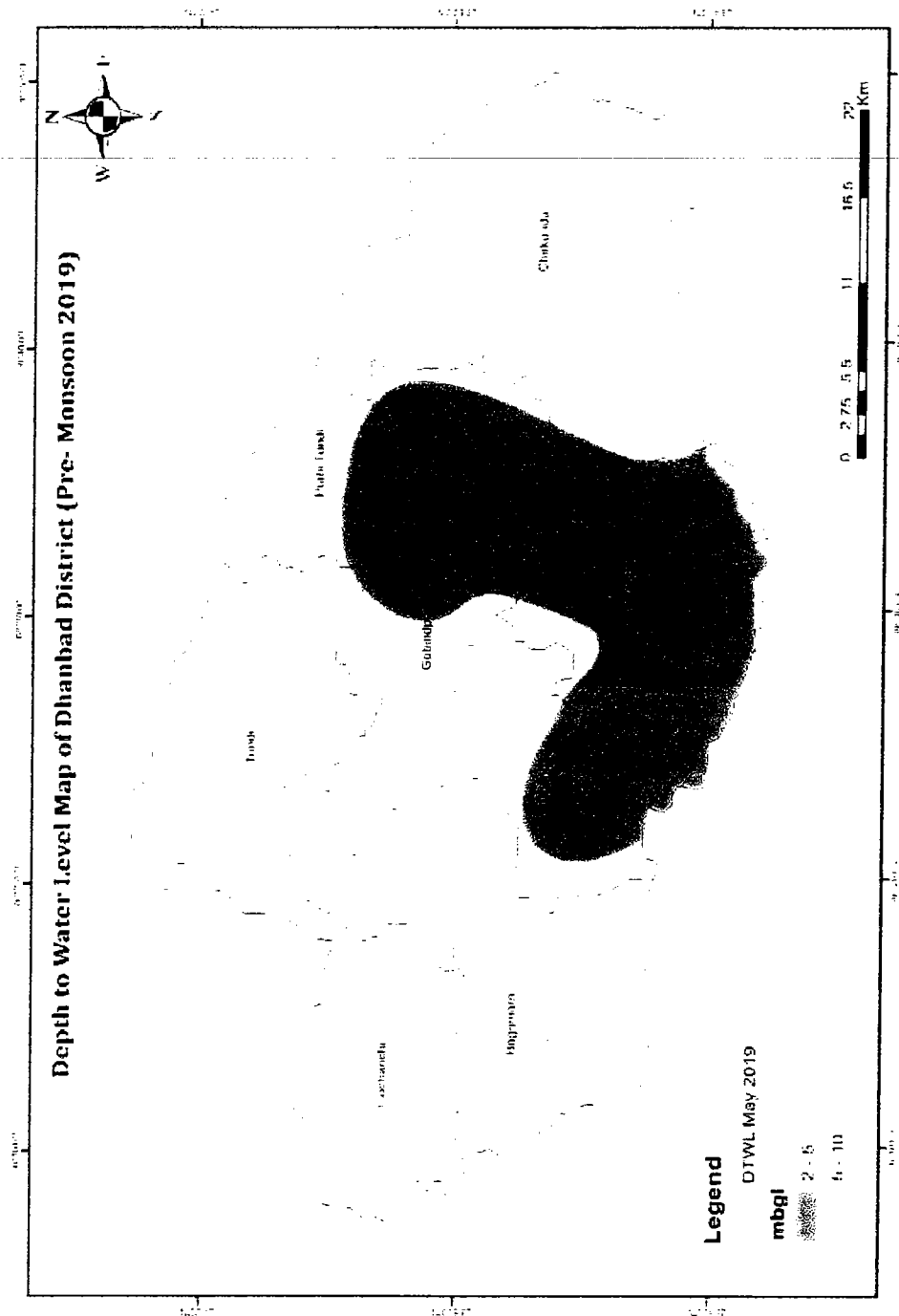


Figure 10 - Pre-monsoon (May. 2019) Depth to water level map of Dhanbad district (Source-CGWB)

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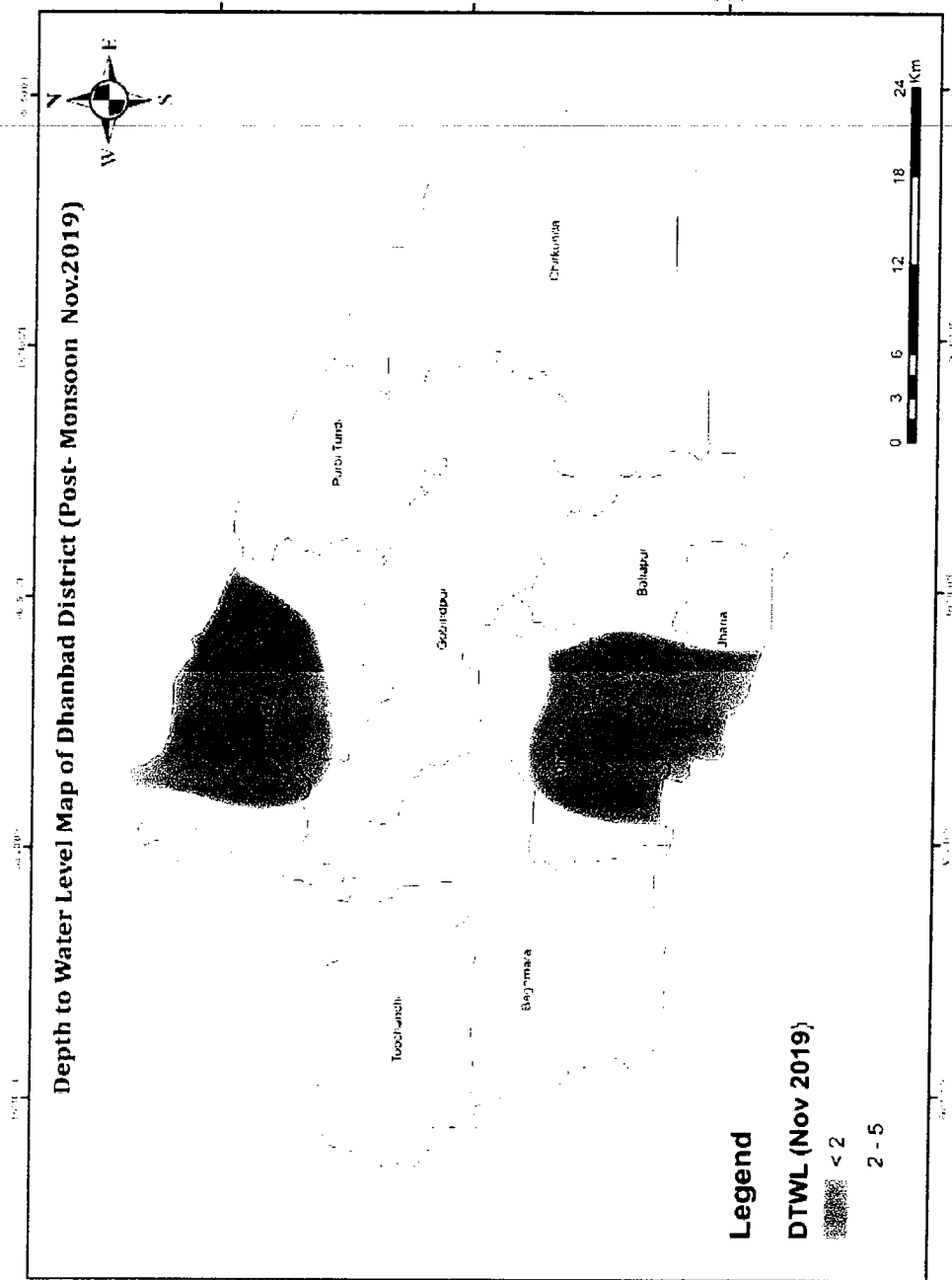


Figure 11 - Post monsoon (May 2019) Depth to water level map of Dhanbad district (Source-CGWB)

District survey Report for Minor Minerals other than sand (Stone)

7.4 Hydrogeological Profile of the zones

Impact on Ground Water

It is proposed to limit mining 1m above Ground Water Table (GWT). Therefore, mining activities are not likely to impact groundwater profile in the district. Also, it is proposed that water demand for other purposes i.e. potable, dust suppression & greenbelt development would be sourced from surface water source. They will be supplied by hired water tankers. Thus, on this account also ground water source will not be impacted.

Water Demand

A stone mine needs water for following purposes;

- Potable
- Dust Suppression
- Greenbelt Development

Average demand for above purpose are;

Potable

On an average 40-50 number of persons employed for a mine having lease area of 5 Ha. Taking potable water demand as 30 litre per day, purpose works out to 1.5 KLD.

Dust Suppression

Use of water for dust suppression is for haul road and other degraded area. On an average taking 0.2 Ha. as area for haul road and average water demand for dust suppression on haul road is 30 KLD per Ha. Water demand for dust suppression in every mine would be 6 KLD.

Greenbelt Development

Greenbelt is developed at;

- Safety zone of mine
- Avenue plantation on link road

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Safety zone is 7.5 m strip around the quarry. In a mine having lease area 5 Ha. safety zone measures 0.6 Ha. to 0.8 Ha.

Taking safety zone as 0.8 Ha. Number of plants in 0.8 Ha. will be 1600×0.8 i.e. 1280 Plants.

Norms for water demand for raising greenbelt in safety zone may be taken as 5 KLD per Ha.

Thus, water demand for raising greenbelt works out to 4 KLD.

Water demand raising for avenue plantation on link road may be taken as 1 KLD.

So, water demand for greenbelt would be 5 KLD.

Total Water Demand works out as;

Potable : 1.5 KLD

Dust Suppression : 6.0 KLD

Greenbelt Development : 5.0 KLD

Total : 12.5 KLD

This water will be sourced from hired tankers.

7.5 Ground Water Resources

The ground water assessment has been done based on the recommendation of the GEC-1997. The ground water assessment has been carried on block wise basis (2009) and the assessment varies between Jharia (9600ha) and Nirsa (35000ha). Jharia block falls in over-exploited category while Dhanbad block is in critical category. All other six blocks in the district fall in the safe category. The net annual replenishable ground water resources of the district are 134.91 mcm. The gross ground water draft for all uses is 70 mcm and allocation for domestic and Industrial requirement up to year 2034 is 58 mcm. The present stage of ground water

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development of the district as on 31st march 2009 is 52%. At present maximum ground water development is in Jharia block (105.63%) and Dhanbad sadar block (92%) and minimum ground water development is in Tundi block (42.55%).

7.6 Ground Water Quality

To evaluate the quality of ground water, 11 Nos. of water samples have been collected from the district and analyzed in Chemical Laboratory CGWB, MER, Patna. The analyzed results are given in the Table-6. The constituents are under permissible limit as per the Indian Standard of Drinking Water (BIS- 10500-91) and hence the ground water is suitable for irrigation as well domestic purpose. The pH value of ground water indicates its.

Table 7 Details Of Chemical Analysis Of Shallow Aquifer Water Samples Of Nhns Wells (2012)

Sl. NO.	Location	District	Well No.	EC μ S/cm	CO ₃	HCO ₃	Cl	Ca	Mg	TH as CaCO ₃	Na	K
				at 25°C	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
1	Jharia	Dhanbad	BDD-1	577	0	160	49.6	24	28	175	37	12.1
2	Tundi	Dhanbad	BDD-2	605	0	98	67.4	56	17	210	33	2.2
3	Nirsa	Dhanbad	BDD-3A	1172	0	98	124.1	74	29	305	111	3.2
4	Topchanchi	Dhanbad	BDD 4	1970	0	268	259.0	160	78	720	43	3.2
5	Mahuda	Dhanbad	BDD-7A	973	0	289	67.4	26	68	345	52	8.8

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6	Govindpur	Dhanbad	BDD-8A	588	0	277	14.2	34	15	145	48	5.3
7	Rajganj	Dhanbad	BDD-9	1690	0	390	195.0	86	60	460	143	1.2
8	Katras	Dhanbad	BDD-10	1750	0	196	241.1	126	86	670	68	4.8
9	Sindri	Dhanbad	BDD-11	1138	0	329	89.0	64	28	275	108	1.4
10	Dhanbad	Dhanbad	BDD-13	1384	0	234	184.3	58	75	455	62	17.5
11	Baghmara	Dhanbad	BDD-14	677	0	111	70.9	56	19	220	39	1.9

Source- CGWB

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Table 8 Chemical Analysis Result of Water Samples from NHS of Dhanbad District

S.NO.	Location	District	Well No.	EC μ S/cm at 25°C	CO ₃ mg/l	HCO ₃ mg/l	Cl mg/l	Ca mg/l	Mg mg/l	TH as CaCO ₃ mg/l	Na mg/l	K mg/l
1	Jharia	Dhanbad	BDD-1	577	0	160	49.6	24	28	175	37	12.1
2	Tundi	Dhanbad	BDD-2	605	0	98	67.4	56	17	210	33	2.2
3	Nirsa	Dhanbad	BDD-3A	1172	0	98	124.1	74	29	305	111	3.2
4	Topchanchi	Dhanbad	BDD 4	1970	0	268	259.0	160	78	720	43	3.2
5	Mahuda	Dhanbad	BDD-7A	973	0	289	67.4	26	68	345	52	8.8
6	Govindpur	Dhanbad	BDD-8A	583	0	277	14.2	34	15	145	48	5.3
7	Rajgani	Dhanbad	BDD-9	1690	0	390	195.0	86	60	460	143	1.2
8	Katras	Dhanbad	BDD-10	1750	0	196	241.1	126	86	670	68	4.8
9	Sindri	Dhanbad	BDD-11	1138	0	329	89.0	64	28	275	108	1.4
10	Dhanbad	Dhanbad	BDD-13	1384	0	234	184.3	58	75	455	62	17.5
11	Baghmara	Dhanbad	BDD-14	677	0	111	70.9	56	19	220	39	1.9

Source- CGWB

Chapter - 8 Rainfall of the district and climatic condition:

Climatic Conditions in the District

The climate of this district is characterized by general dryness, except in the southwest monsoon season. The year may be divided into four main seasons. The cold season is from December to February and is followed by the summer season from March to the first week of June. The period from June to September is the southwest monsoon season. November is the transitional month between monsoon and winter conditions.

RAINFALL

Records of rainfall in the district are available for ten rain gauge stations for period ranging from 15 to 45 years. The details of the rainfall at these stations and for the district as a whole are given in Tables 8 and 9. The average annual rainfall in the district is 1300.5 mm. In general the regions near the northern border of the district get higher rainfall than other parts of the district. During the monsoon season, June to September the district receives rainfall of about 84% of the annual rainfall. July is the rainiest month with an average rainfall at about 323.1 mm. The variation in the rainfall from year to year is large. In the fifty year period 1951 to 2000, the highest annual rainfall amounting to 157% of the annual normal occurred in 1999, while the lowest annual rainfall which was 64% of the normal occurred in 1966. In the fifty year period under consideration there were 11 years in which the annual rainfall in the district was less than 80% of the normal. There was one occasion when such a low rainfall has occurred in two consecutive years and one occasion of three consecutive years. It is seen from Table 2 that the rainfall was between 1001 mm and 1600 mm in 30 years out of 49 under consideration.

On an average there are 67 rainy days (i.e. days with rainfall of 2.5 mm or more) in a year in the district. This number varies from 55 at Katras to 77 at Jharia. The heaviest rainfall recorded in 24 hours at any station in the district was 287.2 mm at Gobindpur on 27 August 1980.

TEMPERATURE

There is only one observatory in the district at Dhanbad. The records of temperature, other climatological parameters and climatic conditions prevailing at this station may be taken as representative of the climatic condition in the district as a whole. The temperatures begin to decrease progressively from November. January is the coldest month of the year with the mean maximum temperature at 25.4°C and the mean minimum temperature at 10.5°C. In association with cold waves, which affect the district during the winter months in the wake of western disturbances, when it moves across north India, the minimum temperature may go down to about 4°C on individual days. Temperatures rise rapidly after February till the first week of June. May is the hottest month with the mean maximum temperature at 38.1°C and the mean minimum temperature at 23.4°C. In May and early part of June before the onset of the southwest

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monsoon, maximum temperature may reach upto 46oC on some days. With the advance of the southwest monsoon into the district by about second week of June the maximum temperature decreases and weather becomes slightly cool and continues to be so throughout the season. With the withdrawal of the monsoon by about the first week of October, temperatures begin to decrease while drop in night temperature is appreciable. The highest maximum temperature and the lowest minimum temperature ever recorded at Dhanbad were 46.7oC on 21 May 1978 and 2.3oC on 14 January 1989 respectively.

HUMIDITY

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

CLOUDINESS

In the winter and early part of the summer, skies are generally clear or lightly clouded. The cloudiness increases from April, particularly in the afternoons. The skies are heavily clouded or overcast during the southwest monsoon season. On some days in winter months the skies are heavily clouded to overcast in the wake of western disturbances.

WINDS

Winds are generally light to moderate in the later part of summer and southwest monsoon season. In May and in the monsoon season winds are predominantly from southeast direction. In October winds are mainly calm and from this month southeasterly component decreases and northwesterly wind increases. In winter and the first half of summer winds mainly blow from northwest direction.

SPECIAL WEATHER PHENOMENA

Depressions originating in the Bay of Bengal during post monsoon and southwest monsoon affect the weather of the district and its neighbourhood during their northwesterly movement after crossing the coast. This causes gusty winds and widespread heavy rain. Thunderstorms occur throughout the year. Its frequency is more in latter part of summer and southwest monsoon season. Thunderstorms in latter part of summer and in June are sometimes accompanied with hail. Dust storms occasionally occur in latter part of summer and before the onset of southwest monsoon in June. Fog occurs occasionally in winter season.

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

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Table 9 Monthly Rainfall in the District of Dhanbad (Unit - mm)

YEAR	JAN		FEB		MAR		APR		MAY		JUN	
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
2016	1.9	-85	17.6	1	2.7	-86	0.4	-98	45.7	-8	147.7	-26
2017	9.5	-21	0.0	-100	10.6	-46	17.6	-3	45.6	-8	123.3	-39
2018	0.0	-100	0.0	-100	0.0	-100	63.9	251	45.6	-8	196.7	-7
2019	0.0	-100	24.8	38	7.1	-64	40.5	75	58.6	11	108.5	-49
2020	14.3	38	5.2	-71	69.1	247	27.9	21	71.4	35	198.8	-7

JUL		AUG		SEPT		OCT		NOV		DEC	
R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
236.3	-31	424.5	37	369.5	36	25.3	-75	0.0	-100	0.0	-100
560.3	65	174.6	-44	123.1	-55	176.2	77	0.0	-100	0.0	-100
243.6	-28	196.7	-37	127.2	-53	21.5	-78	0.0	-100	17.5	133
268.5	-17	251.2	-17	311.1	20	164.2	82	0.0	-100	5.6	4
273.5	-15	252.1	-17	195.3	-29	82.5	-9	1.1	-86	0.3	-95

Source: - Approved DSR (SAND)

Details of All Potential Area

1. No. of Running leases in the district -27
2. No. of LOI issued in the district – 27
3. No. of Lapsed leases in the district – 69
4. No. of proposed blocks by Assistant director Geology –12
5. No. of auctioned blocks by Govt. of Jharkhand- 04
6. No. of Proposed Stone Potential in the district –39

Chapter - 9 Details of the mining leases in the District**Table 10 Details of Running 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 (ha)	Period of Mining lease (Initial)		Period of Mining lease (1st/2nd...renewal)		Date of commencement of Mining Operation	Status (Working / Non Working / Temp. Working for dispatch etc.)	Captive / Non-Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with date of grant of EC.	Location of the Mining lease (Latitude & Longitude)	Method of Mining (Opencast / Underground)
						TO	FROM	TO	FROM						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Stone	G.S.Duggal And Brothers	Prop Gagandeep Singh Duggal, Vill - Kusumatand PO- Ballapur, Dhanbad, gaganduggal2014@gmail.com	29-12-1954	2.792	02-12-1994	01-12-2026	1st-02-12-2004, 2nd-02-12-2014	1st-01-12-2014, 2nd-01-12-2024	18-09-2015	Working	Non-Captive	Yes, EC/SEIAA/2014-15/670/2015/1075, 25.06.2015	Lat: 23°43' 45.53N to N 23°43'53.84'N, Long. 86°28'41.20' E to 86°28'47.99'E	Open Cast
2	Stone	Israaq Zia	Israaq Zia , S/O Mid Kasim Ansari, Jangalpur , PO - Jangalpur , moshin.ansari037@gmail.com	376,09/03/2016	3.246	28-03-2016	27-03-2026	Not Applicable	Not Applicable	23-08-2016	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1743/2015/258 1, 31.12.2015	Lat: 23°54'21.92N to N 23°54'38.00'N, Long. 86°38'12.90' E to 86°38'31.17'E	Open Cast
3	Stone	Kamal Kumar das Stone Mines	Kamal Kumar das S/O Virbharm Das , Ballapur , kamal.kumar31.in@gmail.com	93M,19/01/2016	0.81	11-02-2016	10-02-2026	Not Applicable	Not Applicable	14-02-2017	Working	Non-Captive	Yes, EC/SEIAA/2015-16/857/2015/1550, 09.09.2015	Lat: 23°43'43.38N to N 23°43'38.00'N, Long. 86°33'30' E to 86°33'30'E	Open Cast
4	Stone	Mannu Alam	Pro Mannu Alam , AT/PO - Jangalpur,Dhanbad 1971mannualam@gmail.com	474M, 17/03/2016	1.773	28-03-2016	27-03-2026	Not Applicable	Not Applicable	23-08-2016	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1660/2015/114, 04.03.2016	Lat: 23°51'0.25N to N 23°51'5.46'N, Long. 86°33'30.6' E to 86°35'35.26'E	Open Cast

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5	Stone	Mannu Alam Stone Mines	Mauza - Jargalpur PO - Govindpur, Khata No -167, Plot No - 364P Dhanbad, 1971mannualam@gmail.com	1229M, 25/07/2016	1.29	26-05-2016	16-07-2026	Not Applicable	Not Applicable	21-10-2016	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1750/2015/2597, 31.12.2015	Lat: 23°49'59.58 N to 23°50'03.42'N, Long. 86°34'19.32' E to 86°34'21.66'E	Open Cast
6	Stone	Md Mokim Ansari	Prop Mokim Ansari S/O Mustak Ansari Add Jangalpur PS Govindpur, Dhanbad, amcamitsaxena@yahoo.com	475M, 14/03/2016	0.85	13-04-2015	12-04-2026	Not Applicable	Not Applicable	23-08-2016	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1657/2015/115, 04.03.2016	Lat: 23°50'8.99 N to 23°50'11.97'N, Long. 86°34'33.12' E to 86°34'37.46'E	Open Cast
7	Stone	Md Mubarak Hussain And Md Mahmud Ansari	At Jangalpur, PO Jangalpur, PS govindpur, Dhanbad, 123@gmail.com	522M, 26/03/2016	1.437	11-04-2015	10-04-2026	Not Applicable	Not Applicable	26-05-2016	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1400/2015/117, 04.03.2016	Lat: 23°50'13.98 N to 23°50'12.72'N, Long. 86°34'20.46' E to 86°34'22.68'E	Open Cast
8	Stone	Ms Ankush Grover Mines And Stone Crusher	Prop Ankush Grover S/O Man Mohan Grover, Vill.-Salukchakra, PS - Nirsia, Dhanbad, rqpajay@gmail.com	0215M, 09/02/2016	3.64	16-02-2016	15-02-2026	Not Applicable	Not Applicable	18-02-2016	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1628/2015/29, 29.01.2016	Lat: 23°43'0.7 N to 23°43'0.73'N, Long. 86°35'38.3' E to 86°35'39.3'E	Open Cast
9	Stone, Stone Dust	Ms Asit Kumar Mandal Stone Mine	Prop Asit Kumar Mandal, At Asanbani, PO-Vitya, PS-Govindpur, Dhanbad, mandalast487@gmail.com	790M, 11/04/2016	1.295	20-05-2016	19-05-2026	Not Applicable	Not Applicable	20-05-2016	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1689/2015/128, 21.03.2016	Lat: 23°52'6.9 N to 23°52'6.2'N, Long. 86°29'23.90' E to 86°29'26.20'E	Open Cast
10	Stone	MS Kuldip Kumar CO.	M/S Kuldip Kumar Co., AT Mauza - salukchakra, PO - Salukchakra, Dist - Dhanbad, k.k.chulania@gmail.com	1821M, 03/10/2015	2.76	08-10-2015	07-10-2025	Not Applicable	Not Applicable	11-10-2015	Working	Non-Captive	Yes, EC/SEIAA/2014-15/468/2014/1269, 10.08.2015	Lat: 23°43'50.12 N to 23°43'51.12'N, Long. 86°36'7.53' E to 86°36'8.01'E	Open Cast

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11	Stone, Stone (Chips), Stone Dust	MS Maa Ambey Stone	Prop - Devashi Pramanik, S/O Banmanli Pramanik, Amjhar PO+PS - Balliapur, Dhanbad	1467M, 28/08/2017	1.05	05-11-2017	04-11-2020	Not Applicable	Not Applicable	04-04-2018	Working	Non-Captive	Yes, EC/DEIAA/2016-17/5208/52, 08.12.2016	Lat: 23°44'26.0 N to 23°44'23.6'N, Long. 86°32'50.1' E to 86°32'47.2' E	Open Cast
12	Stone	Rana Uday Pratap Singh	Prop Rana uday pratap Singh, AT - Marro, Ps - Govindpur, Dhanbad, 3.15 Acres, rups7251@gmail.com	751M, 11/04/2016	1.27	30-04-2016	29-04-2026	Not Applicable	Not Applicable	30-04-2016	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1911/2015/239 8, 30.12.2015	Lat: 23°52'1.13 N to 23°52'8.02'N, Long. 86°29'25.66' E to 86°29'39.94' E	Open Cast
13	Stone	Rana Uday Pratap Singh	Prop Rana uday pratap Singh, AT - Marro, Ps - Govindpur, Dhanbad, rups7251@gmail.com	769M, 11/04/2016	4.795	30-04-2016	29-04-2026	Not Applicable	Not Applicable	17-08-2017	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1910/2015/239 9, 30.12.2015	Lat: 23°51'59.13 N to 23°51'60.24'N, Long. 86°29'31.34' E to 86°29'32.24' E	Open Cast
14	Stone, Stone (Chips), Stone Dust	Sri Asit Kumar Mandal	Vill.- Asanbani, PO- Vitya, PS- Govindpur, Dhanbad, Mauza - Garga, Area - 9.20 acres, mandalasit487@gmail.com	1465, 28/07/2017	3.72	05-11-2017	04-11-2020	Not Applicable	Not Applicable	04-04-2018	Working	Non-Captive	Yes, EC/DEIAA/2016-17/15, 17.01.2017	Lat: 23°54'9.6 N to 23°54'14.1'N, Long. 86°38'6.1' E to 86°38'11.2' E	Open Cast
15	Stone	Sri Asit Kumar Mandal & Azad Ansari	Vill.- Asanbani, PO- Vitya, PS- Govindpur, Dhanbad, Mauza - Garga, Area - 3.17 acres, mandalasit487@gmail.com	1466, 28/08/2017	3.17	05-11-2017	04-11-2020	Not Applicable	Not Applicable	04-04-2018	Working	Non-Captive	Yes, EC/DEIAA/2016-17/20, 17.01.2017	Lat: 23°53'51.3 N to 23°53'55.8'N, Long. 86°38'16.2' E to 86°38'20.1' E	Open Cast

District survey Report for Minor Minerals other than sand (Stone)

16	Stone	Sri Asit kumar Mandal & Azad Ansari	Vill.- Asanbani, PO- Vitya, PS- Govindpur, Dhanbad, Mauza - Garga, Area - 2.83 acres, mandalasit487@g mail.com	1463, 28/08/2017	2.83	05-11-2017	04-11-2020	Not Applicable	Not Applicable	04-04-2018	Working	Non-Captive	Yes, EC/DEIAA/2016-17/14, 17.01.2017	Lat: 23°53'40.9 N to 23°53'43.8 N, Long. 86°38'5.6' E to 86°38'8.7'E	Open Cast
17	Stone	Sri Asit kumar Mandal & Azad Ansari	Vill.- Asanbani, PO- Vitya, PS- Govindpur, Dhanbad, Mauza - Garga, Plot no. -361, mandalasit487@g mail.com	1464, 28/08/2017	1.57	05-11-2017	04-11-2020	Not Applicable	Not Applicable	04-04-2018	Working	Non-Captive	Yes, EC/DEIAA/2016-17/13, 17.01.2017	Lat: 23°53'44.1 N to 23°53'47.8 N, Long. 86°38'5.9' E to 86°38'8.9'E	Open Cast
18	Stone	Sri Pritpal Singh Stone Mines	Sri Pritpal Singh S/O Lt Darshan Singh, At - Amjhar, PO/PS -Ballapur, Dhanbad	804, 18-04-2016	2.78	17-08-2016	16-08-2026	Not Applicable	Not Applicable	20-10-2016	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1458/2015/144, 28.03.2016	Lat: 23°42'5.4 N to 23°42'7.6 N, Long. 86°36'10.5' E to 86°36'20'E	Open Cast
19	Stone	Umesh Kumar And Suresh Kumar Mahato	Partner Umesh Kumar And Suresh Kumar Mahato, Gandhi Nagar, PO - Nishitpur, PS - Govindpur, Dhanbad	568, 30-03-2015	1.08	11-04-2016	10-04-2026	Not Applicable	Not Applicable	23-08-2016	Working	Non-Captive	Yes, EC/SEIAA/2015-16/1519/2015/129, 21.03.2016	Lat: 23°53'13.01 N to 23°53'15.72 N, Long. 86°30'26.83' E to 86°30'32.96'E	Open Cast
20	Stone	Rajiv Nayan Sharma	Rajiv Nayan Sharma S/O - Sri Prasad Sharma Sawalgada, PO - Palani, PS - Ballapur, Dhanbad	1952M 19-10-2015	1.53	14-03-2005	13-03-2015	14-03-2015	13-03-2025	NA	Working	Non-Captive	Yes, EC/SEIAA/2015-16/891/2015/1623, 30.09.2015	Lat: 23°44'58.4 N to 23°45'03.6 N, Long. 86°28'59.5' E to 86°29'04.8'E	Open Cast

District survey Report for Minor Minerals other than sand (Stone)

21	Stone	M/S MAA BINDHYAW ASINI MINERALS	SRI SANJEEV KUMAR GOPE & OTHERS S/O SRI ASHOK KUMAR GOPE VILLAGE & P.O. MOKO THANA: BALIAPUR, DISTRICT: DHANBAD	2463M, 07/12/2021	1.93	27.01. 2022	26.01.2 032	Not Applicable	Not Applicable	30.04.20 22	Working	Non- Captive	Yes, EC/SEIAA/2020- 21/2364/2020/90, 14.08.2021	Lat: 23°42'48.83 N to 23°42'54.69'N, Long. 86°38'33.64' E to 86°38'39.50'E	Open Cast
22	Stone	M/S MAN MOHAN GROVER	SRI ANKUSH GROVER AT POST & VILLAGE: BALIAPUR, DISTRICT: DHANBAD JHARKHAND	1754M, 06.08.2021	2.96	17.08. 2021	16.08.2 031	Not Applicable	Not Applicable	NA	Working	Non- Captive	Yes, EC/SEIAA/2021- 22/2359/2021/42, 15.07.2021	Lat: 23°41'26.69 N to 23°41'36.01'N, Long. 86°35'06.44' E to 86°35'15.71'E	Open Cast
23	Stone	Nasim Ansari	Md. Nasim Ansari, Vill. -Murgabani,PO -Jangalpur, PS - Govindpur ,Dist. Dhanbad, Jharkhand	2461M , 07.12.2021	0.866	02.03. 2022	01.03.2 032	Not Applicable	Not Applicable	14.08.20 22	Working	Non- Captive	Yes, EC/SEIAA/2021- 22/2385/2021/100, 14.08.2021	Lat: 23°42'14.34 N to 23°42'19.20'N, Long. 86°38'29.5' E to 86°38'33.7'E	Open Cast
24	Stone	Rameshwar Mahato	Rameshwar Mahato , S/O - Late Deglal Mahato,PO- Birni,PS - Nawadih , Dist.-Dhanbad , Jharkhand	218M, 28.01.2022	2.83	02.03. 2022	01.02.2 027	Not Applicable	Not Applicable	NA	Working	Non- Captive	Yes, EC/SEIAA/2021- 22/2349/2021/38, 15.07.2021	Lat: 23°41'37.25 N to 23°41'45.58'N, Long. 86°33'35.89' E to 86°33'43.38'E	Open Cast
25	Stone	Shyamal kumar Mondal & Others	Part. -(1)Shyamal kumar Mondal , S/O - Sadanand Mondal ,Vill. - Dudhiya , PO- Moko,PS - Baliapur ,Dhanbad , (2) Jharkhand , (2) Shyamal Kumar pandey ,S/O - Late Mahdev Pandey ,Vill - Sindurpur ,	138/M , 28.11.2023	0.65	25.03. 2023	24.03.2 023	Not Applicable	Not Applicable	NA	Working	Non- Captive	Yes, EC/SEIAA/2020- 21/2363/2020/88, 14.08.2021	Lat: 23°44'30.28 N to 23°44'33.29'N, Long. 86°32'28.50' E to 86°32'33.00'E	Open Cast

District survey Report for Minor Minerals other than sand (Stone)

		PO+PS - Bailapur, Dist -Dhanbad, Jharkhand																		
26	Stone	M/S Chinnastik a stone Minerals	Part-(I) Sri Dihchand Mehta Part-(ii) Sri kailash Yadav Part (iii) - Prayag Mahato .	08.08.2020	1.22	19.03. 2020	18.03.2 030	Not Applicable	Not Applicable	NA	Working	Non- Captive	Yes, EC/SEIAA/2018- 19/2239/2019/692, 08.11.2019	Lat: 23°54'50.07 N to 23°54'53.47'N, Long: 86°07'42.04'E to 86°07'47.62'E	Open Cast					
27	Stone	M/S Mahalaxmi Minerals, Partner -(i) Santosh Prasad, S/O Sri Maheshwar Modi, (ii) Sarvjeet Singh Rana, S/O - JS Rana	-(i) VILLAGE- Shastri Nagar, PO+PS - Giridih, District - Giridih, (ii) Add - B-34, Geetanjali Clave Malviya Nagar S.O. South Delhi, Present Address - VILLAGE - Shastri Nagar, PO+PS - Giridih, District - Giridih	Letter No - 601/MO/Dhanbad , Date - 02/05/2023	1.129	07.02. 2024	06.02.2 024	Not Applicable	Not Applicable	NA	Working	Non- Captive	Yes, EC/SEIAA/2023- 24/2937/2023/300, 06.10.2023	Lat: 23°53'21.048 N to 23°53'28.180'N, Long: 86°17'8.129'E to 86°17'12.355'E	Open Cast					

Note - Location of the Mining lease (Latitude & Longitude) taken from DGPS & Approved Mining Plan Provided By the Lessee.

Table 11 Lapsed lease list 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 (ha)	Period of Mining lease (Initial)		Period of Mining lease (1st/2nd...renewal)		Date of commencement of Mining Operation	Status (Working / Non Working / Temp. Working for dispatch etc.)	Captive / Non-Captive	Obtained Environmental Clearance (Yes/No), If Yes Letter No with date of grant of EC.	Location of the Mining lease (Latitude & Longitude)	Method of Mining (Opencast / Underground)
						TO	FROM	TO	FROM						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Stone	Balendra kumar singh stone mines	Prop Balendra Kumar Sing,VIII-Saharpura,Po-Saharpura,Ps Govindpur,Dist-Dhanbad,Balendraksin gh121@gmail.Com	1234,09/10/2014	0.76	26-12-2014	31-01-2022	Not Applicable	Not Applicable	26-12-2014	Non Working	Non-Captive	Yes,341,31/03/2014	Lat: 24°23'0.912"N To 24°23'5.0912"N, Long: 85°24'40.822"E To 85°24'42.8224"E	Open Cast
2	Stone	Diwakar Mandal Other	Paharpur, Po-Ballapur, Dhanbad, Diwakarmandal17@gmail.Com	10.06.2001	0.48	26.09.2001	25.09.2010	26.09.2011	25.09.2021	31.12.2015	Non Working	Non-Captive	Yes, EC/SEIA/2/015-16/17/72/2015/2507, 31.12.2015	Lat: 23°44' 06" N to 23°44'04.2"N, Long: 86°31'09.5" E to 86°31'12.6"E	Open Cast
3	Stone	Kamalakar Mandal others	Kamalakar Mandal Other, Mouza-Nipaniya, Ps-Ballapur, Dhanbad ,Ktstone123@gmail.Com	1529, 24/08/19 98	0.809	27.10.1998	26.10.2008	1st 27.10.2008 2nd 27.10.2018.	1st 26.10.2018, 2nd 26.10.2028	29.01.1999	Non Working	Non-Captive	Yes, EC/SEIA/2/015-16/1705/2 015/231, 30/12/2015	Lat: 23°47'43.6 N to 23°43'49.3N, Long: 86°38'00.2"E to 86°38'4.9"E	Open Cast
4	Stone,Stone Chips	Legal Heir Kamal Kumar Das	VIII - Ballapur, Po - Ballapur ,Dhanbad, Kamal.Kumar31.in@gmail.Com	1229,09/10/2014	2.2	30-06-2012	29-06-2022	Not Applicable	Not Applicable	30.06.2012	Non Working	Non-Captive	Yes, 330,31/03/2014	Lat: 23°43'35.26 N to 23°43'35.27.1 N, Long: 86°30'57.8"E to 86°30'59.8"E	Open Cast

District survey Report for Minor Minerals other than sand (Stone)

5	Stone	Maha kali stone industries	Maha Kali Stone Enterprise, Smt Veena Grover, Vill Dudhiya, Po/Ps - Ballapur, Dist. - Dhanbad, Anksgrover@gmail.Com	19-10-1999	0.809	05-04-2000	04-04-2010	05-04-2010	04-04-2020	05-04-2000	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1361/015/2098, 15/12/2015	Lat: 23°42'0.623 N to 23°42'0.688 N, Long: 86°34'0.243 E to 86°34'0.252 E	Open Cast
6	Stone	Manik Chandra Mandal	Vill. - Amjhar , Ps - Ballapur ,Dhanbad, Memsels07@gmail.Com	3021,28/10/1992	0.428	10-01-1993	09-01-2003	1st 10.01.2003 2nd 10.01.2013.	1st 09.01.2013, 2nd 09.01.2023	23-01-2016	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/958/015/1815, 23/11/2015	Lat: 23°44'03.4 N to 23°44'04.1 N, Long: 86°29'30.9 E to 86°29'34.1 E	Open Cast
7	Stone	Md Gayasuddin Ansari	Vill. - Marro , Ps - Govindpur , Dist. - Dhanbad, Gayasuddinansari@Gmail.Com	3352,16/09/2008	1.416	27-09-2015	05-11-2018	Not Applicable	Not Applicable	27-09-2015	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1779/2015/2607, 31/12/2015	Lat: 23°52'02.6 N to 23°52'07.6 N, Long: 86°29'31.2 E to 86°29'36.7 E	Open Cast
8	Stone	Md Mobin Ansari and Md Margub Ansari Stone Mines	Vill. - Jangalpur , Po - Jangalpur , Dist. - Dhanbad, 123@gmail.Com	4100,29/10/2008	1.59	04-06-2009	03-06-2019	Not Applicable	Not Applicable	29-08-2015	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1544/2015/2291, 30/12/2015	Lat: 23°50'4.68 N to 23°50'9.78 N, Long: 86°34'25.20 E to 86°34'31.20 E	Open Cast
9	Stone	Md Mohsin Ansari Stone Mines	Mouza - Jangalpur , Ps - Govindpur , Khata No - 167, Plot No - 402, Dist. - Dhanbad, Mohsin.Ansari037@gmail.Com	12-05-2000	0.566	12-06-2000	11-06-2010	12-06-2010	11-06-2020	12-05-2000	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1751/2015/259, 31/12/2015	Lat: 23°50'8.99 N to 23°50'11.97 N, Long: 86°34'33.12 E to 86°34'37.46 E	Open Cast
10	Stone	Md Muzibur Rab Stone Mines	Mouza - Jangalpur Ps - Govindpur , Dist. - Dhanbad, 123@gmail.Com	15547,21/09/2008	1.7	06-12-2008	05-12-2018	Not Applicable	Not Applicable	30-07-2015	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1545/2015/229, 30/12/2015	Lat: 23°53'13.4 N to 23°53'13.4 N, Long: 86°34'12.3 E to 86°34'12.3 E	Open Cast

District survey Report for Minor Minerals other than sand (Stone)

11	Stone	Md. Afjal Ansari Stone Mines	Mouza - Jangalpur Ps - Govindpur, Dist. - Dhanbad, 123@gmail.Com	1196,08/07/2 002	1.303	03-07- 2002	02-07- 2012	03-07-2012	02-07-2022	08-08-2002	Non Working	Non- Captive	Yes, EC/SEIAA/2013- 14/72/2013/131, 07/09/2013	Lat: 23°50'3.71 N to 23°50'3.77 N, Long: 86°34'25.13"E to 86°34'27.3"E	Open Cast
12	Stone	Md. Mojammil Ahmad	Mouza - Jangalpur Ps - Govindpur, Dist. - Dhanbad, Sufiaen1981@gmail.C om	06-07-2002	2.429	30-07- 2002	29-07- 2012	30-07-2012	29-07-2022	30-07-2022	Non Working	Non- Captive	Yes, 132, 07/09/2013	Lat: 23°50'0.13 N to 23°50'0.17 N, Long: 86°34'21.6"E to 86°34'25.3"E	Open Cast
13	Stone	MS D.P. ENTERPRISES	Mouaz - Gahira, Po Jangalpur Ps Govindpur, Dhanbad Dpenterprises@gmail. Com	559, 14/03/2002	0.6	28-04- 2002	27-04- 2012	28-04-2012	27-04-2022	28-06-2002	Non Working	Non- Captive	Yes, EC/SEIAA/2015, 16/813/2015/1308, 17/08/2015	Lat: 23°48' 13.1"N TO 23°48' 16.4"N, Long: E 86°35'15.3"E TO 86°35'19.5"E	Open Cast
14	Stone	MS SHRI SAI RAM MINERALS	Prd Vivek Kumar Agarwal, Mouza Dardaha Po Ballapur Dhanbad Srmineral1@gmail.Co m	1453,19/08/2 015	0.64	17-08- 2015	16-01- 2023	Not Applicable	Not Applicable	17-08-2015	Non Working	Non- Captive	Yes, 135, 10/09/2015	Lat: 23°44' 6.7776"N TO 23°44' 5.136"N, Long: E 86°32'29.67"E TO E 86°32'33.622"E	Open Cast
15	STONE,ST ONE(CHIPS) ,STONE DUST	NIRAJ KUMAR AGGARWAL AND JAGDIP AGGARWAL	Partner Niraj Kumar Aggarwal And Jagdip Aggarwal, At/Po Ballapur, Ps Ballapur, Dhanbad J.Chulania@rediffmail. Com	473,17/03/20 16	1.675	04-04- 2016	Rejected	Not Applicable	Not Applicable	05-04-2016	lease cancelled	Non- Captive	Yes, EC/SEIAA/2015- 16/1658/15/116, 04/03/2016	Lat: 23°42' 36.11"N TO N 23°42' 41.31"N, Long: 86°32'14.40"E TO E 86°32'21.35"E	Open Cast

District survey Report for Minor Minerals other than sand (Stone)

16	Stone	PRADEEP KUMAR SINGH STONE QUARRY	Pradeep Kumar Singh Vill Keska Ps Tundi Dhanbad Arvind.Pandey@West well.in	29-09-1998	1.417	23-12-1998	27-12-2008	28-12-2008	27-12-2018	28-12-1998	Non Working	Non-Captive	Yes, EC/DEIAA/016/12, 17/01/2017	Lat: 23°54' 15.30"N TO 23°54' 15.30"N, Long: E 86°24' 1.38"E TO 86°24' 3.26"E	Open Cast
17	Stone	SHIVAY ENTERPRISES	Vill Salpatria, Ps Ballapur, Distt Dhanbad jhalani1979@gmail.com	1357,13/10/2011	0.987	05-12-2011	04-12-2021	Not Applicable	Not Applicable	04-05-2012	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1659/2015-31/12/2015	Lat: N23°41'53.03" TO N 23°41'57.86" N, Long: E86°34'30.10" TO E 86°34'35.70"E	Open Cast
18	Stone	SHREE MAHALAXMI INDUSTRIES	Partner Manoj Kumar, Sital Kr. Mishra, Amrendr A Narayan Jha 211, N And C 2nd Floor Ozone Plaza, Bank More, Dhanbad. 3acer	259.01/11/1998	1.21	12-12-1998	11-12-2008	12-12-2008	11-12-2018	12-12-1998	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1604/15/123, 16/03/2016	Lat: N23°51'56.5" TO N 23°52'00.2" N, Long: E86°29'26.6" TO E 86°29'37.1"E	Open Cast
19	Stone	SHREE MAHALAXMI ENTERPRISES	Partner Sital Kr. Mishra, Amrendr A Narayan Jha 211, B And C 2nd Floor, Ozone Plaza, Bank More, Dhanbad 5 Acer	NA, 13/06/2000	2.023	13-06-2000	12-06-2010	13-06-2010	12-06-2020	13-06-2000	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1603/15/2376, 30/12/2015	Lat: N23°52'00.2" TO N 23°52'00.5" N, Long: E86°29' 25.6" TO E 86°29'32.5"E	Open Cast
20	Stone	SRI BAMAAPADA ARDDY	Shri Bamaapada Arddy, Vill Saldaha, Po/Ps Raiganj, Distt Dhanbad	24-04-2000	0.4	04-07-2000	03-07-2010	04-07-2010	03-07-2020	04-07-2000	Non Working	Non-Captive	Yes, EC/SEIAA/2014-15/466/2014/893, 01/05/2015	Lat: N23°51'25.9" TO N 23°51'28.5" N, Long: E86°33'13.75" TO E 86°33'16.17"E	Open Cast

District survey Report for Minor Minerals other than sand (Stone)

21	Stone	SRI HARIPADO MAHATO	Mouza Paharpur Po Baliapur Dhanbad Haripadmahato.2016@ Rediffmail.Com	623, 29/04/2000	0.68	13-07- 2000	09-07- 2010	10-07-2010	09-07-2020	07-12-2000	Non Working	Non- Captive	Yes,EC/SEIAA/2014- 15/690/015/1141, 27/07/2015	Lat: N23°44'31" TO N 23°44'36.52" N, Long: E86°30'49" TO E 86°30'04"E	Open Cast
22	Stone	SRI JAGDIP AGARWAL	Sri Jagdip Agarwal, S/O Sri Om Prakash Agarwal, Vill Ballapur, Po/ps Ballapur, Distt Dhanbad, Pin 828201	937, 01/10/2013	0.81	31-10- 2013	30-10- 2023	Not Appl'cable	Not Applicable	07-11-2013	Non Working	Non- Captive	Yes,EC/SEIAA/2013- 14/85/2013/2421, 30/12/2015	Lat: N23°42'45.7236 " TO N23°42'48.024" N, Long: E86°33'6.768" TO E 86°33'8.622"E	Open Cast
23	Stone	SRI JAGDIP AGARWAL	Sri Jagdip Agarwal At. Sitalpur P.O. Salukchopra Dist. Dhanbad	13-07-1998	1.28	05-09- 1998	04-09- 2008	1st: 05-09- 2008; 2nd: 04-09-2018	1st: 05-09- 2008; 2nd: 31-03-2020	05-09-1998	Non Working	Non- Captive	Yes, EC/SEIAA/2015- 16/1270/2015/210, 15/12/2015	Lat: 23°44'32.2"N TO N 23°44'35.4" N, Long: 86°34'58.5"N TO E 86°34'56.9"E	Open Cast
24	Stone	SRI JAGDISH SINGH	Jagdish Singh, Vill Nutandih, Ps Saraidhela, Distt Dhanbad Majon.Dhanbad@Gma il.Com	03-08-1992	0.716	03-08- 1992	02-08- 2002	1st: 03-08- 2002; 2nd: 03-08-2012	1st: 02-08- 2012; 2nd: 02-08-2022	03-08-1998	Non Working	Non- Captive	Yes,EC/SEIAA/2015- 16/955/2015/126, 16/03/2016	Lat: 23°52'29.2"N TO N 23°52'34.024" N, Long: 86°32'14"E TO 86°32'15"E	Open Cast
25	Stone	SRI JAGDISH SINGH, ASIT KUMAR MANDAL	Vill Marro, Ps/Po Gobindpur, Distt Dhanbad Mandalasit4872@Gma il.Com	3139,22/C8/2 008	1.416	06-11- 2008	05-11- 2018	06-11-2018	31-03-2020	29-12-2008	Non Working	Non- Captive	Yes, EC/SEIAA/2015- 16/1689/2015/234, 31/12/2015	Lat: N23°51'59.1" TO N 23°51'61.8" N, Long: E86°29'25.2" TO E 86°29'27.0"E	Open Cast

District survey Report for Minor Minerals other than sand (Stone)

26	Stone	SRI JAYDHAN RAJWAR	Sri Jaydhan Rajwar, Vill Sindurpur Chawktand, Po/Ps Ballapur, Distt Dhanbad	29-11-2002	1.214	12-01- 2003	11-01- 2013	12-01-2013	11-01-2023	13-01-2015	Non Working	Non- Captive	Yes, EC/2015- 16/1006/2015/1723, 26/10/2015	Lat: 23°44'41.8"N TO N Long: 86°32'55.9"E TO E 86°32'59.7"E	Open Cast
27	Stone	SRI MANOHAR LAL SHARMA	Mouza Amajhar Po Ballapur Dhanbad	12, 04-01- 2016	1.33	27-07- 2018	31-03- 2020	Not Applicable	Not Applicable	27-07-2018	Non Working	Non- Captive	Yes SEIAA/2015- 16/194/2015/1816, 20/11 2015	Lat: N23°43'58.57" TO N Long: 86°29'29.8" TO E 86°29'36.05"E	Open Cast
28	Stone stone (chips), stone dust	SRI PAWAN TANEJA	Sri Pawan Taneja Kashiyatand, Po Bhuli, Distt Dhanbad	108, 20-01- 1997	0.668	21-02- 1997	20-02- 2002	1st: 08-07- 2002; 2nd: 21-02-2012	1st: 07-07- 2012; 2nd: 20- 02-2022	24-07-1997	Non Working	Non- Captive	Yes, 185, 30/11/2013	Lat: N23°49'36.79" TO N Long: 86°23'35.31" TO E	Open Cast
29	Stone	SRI RAJA RAM SHARMA	Prop Sri Raja Ram Sharma, S/O Raghu Sharma Mouza Marro Ps Govindpur	14-07-2002	1.07	14-07- 2002	13-07- 2012	14-07-2012	13-07-2022	14-07-2002	Non Working	Non- Captive	Yes EC/SEIAA/2015- 16/1605/215/124, 16/03/2016	Lat: N23°52'04" TO N Long: 86°29'34.6" TO E 86°29'38.5"E	Open Cast
30	Stone	SRI RANJIT KUMAR MANDAL	Vill Aamihar, Po/Ps Ballapur, Distt Dhanbad	14-11-2002	1.01	07-12- 2003	06-12- 2013	07-12-2013	06-12-2023	07-12-2003	Non Working	Non- Captive	Yes, 371, 07/05/2014	Lat: N23°45'16" TO N Long: 86°35'13" TO E 86°36'14.8"E	Open Cast
31	Stone	SRI SANTOSH KUMAR MUNSHI	Pro Sri Santosh Kumar Munshi, Mouza Gendanawadih Ps Topchanchi, Dhanbad	7267, 29/09/2015	1.214	29-10- 2015	27-09- 2022	Not Applicable	Not Applicable	29-10-2015	Non Working	Non- Captive	Yes EC/SEIAA/2014- 15/462/2014/708, 31/11/2014	Lat: N23°52'33.5" TO N Long: 86°13'29.22" TO E	Open Cast

District survey Report for Minor Minerals other than sand (Stone)

32	Stone	SRI SHANKAR MAHATO	VIII Fakiradih, Po/Ps Ballapur, Distt Dhanbad Shankarmahto123@Gmail.Com	21-01-2003	0.809	07-04-2003	06-04-2013	07-04-2013	06-04-2023	07-04-2003	Non Working	Non-Captive	Yes, 390, 19/05/2014	Lat: N23°44'30" TO N 23°44'27" N, Long: E86°30'56" TO E 86°31'03"E	Open Cast
33	Stone	SRI SHIVPUJAN SHARMA	Sri Shivpujan Sharma, Vill Daidali, Ps/Po Rajganj, Distt Dhanbad Missshivpujan@gmail.com	17-12-2011	0.37	03-03-2012	02-03-2022	Not Applicable	Not Applicable	03-03-2012	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1525/015/2292, 30/12/2015	Lat: N23°51'25.16" TO N 23°51'27.46" N, Long: E86°20'31.08" TO E 86°20'33.65"E	Open Cast
34	Stone	TEJ NARAYAN SINGH	VIII+Po: Keska, Tundi	02-09-2000	1.13	10-11-2000	09-11-2010	10-11-2010	09-11-2020	10-11-2000	Non Working	Non-Captive	Yes, EC/DEIAA/2016-17/18, 17/01/2017	Lat: N23°54'14.64" TO N 23°54'17.64" N, Long: E86°25'3.64" TO E 86°27'5.72"E	Open Cast
35	Stone	TEJ NARAYAN SINGH	VIII+Po: Keska, Tundi	18-02-1999	1.21	22-03-1999	21-03-2009	22-03-2009	21-03-2019	22-03-1999	Non Working	Non-Captive	Yes, EC/DEIAA/201-17/19, 17/01/2017	Lat: N23°54'30.82" TO N 23°54'33.87" N, Long: E86°24'56.75" TO E 86°24'59.75"E	Open Cast
36	Stone	VIKASH KUMAR SINGH	Vikash Kumar Singh Golmara Po Pargha Ps Ballapur Dhanbad	31-08-1988	1.821	24-07-1993	23-07-2003	1st: 24-07-2003; 2nd: 24-07-2013	1st: 23-07-2013; 2nd: 23-07-2023	24-07-1993	Non Working	Non-Captive	Yes, EC/SEIAA/2013-14/186/2013/465, 22/08/2014	Lat: N23°44'06" TO N 23°44'09" N, Long: E86°27'52" TO E 86°27'59"E	Open Cast
37	Stone	AHMAD HUSSAIN OTHER	Mouza Modidih Ps Govindpur Dhanbad Plot 148	2120, 18-05-2007	0.405	31-10-2017	30-10-2017	Not Applicable	Not Applicable	08-03-2008	Non Working	Non-Captive	-	Lat: N23°50'5.424" TO N 23°50'1.766" N, Long: E86°34'26.796" TO E	Open Cast

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38	Stone	BAIDYA NATH MODAK	Vill Dolabar, Po Moko, Ps Ballapur, Distt Dhanbad	2861, 06-08-2007	0.68	16-08-1999	15-08-2009	16-08-2009	15-08-2019	29-12-2015	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1158/015/1756, 26/10/2015	Lat: N23°44'02.95" TO N 23°44'17.55" N, Long: E86°33'25.48" TO E 86°33'22.53"E	Open Cast
39	Stone	BHOLA TURI	Mouza Sadaeladug Ps Bagnara Dhanbad	26-04-2008	0.2	21-06-2008	20-06-2018	Not Applicable	Not Applicable	-	Non Working	Non-Captive	NA	-	Open Cast
40	Stone	CHURAMAN MAHATO	Plot 945, Barwatand, Mohanad Tundi	16-09-1998	0.518	29-09-1998	28-09-2008	29-09-2008	28-09-2018	-	Non Working	Non-Captive	-	Lat: N23°55'46.488" TO N 23°55'46.196" N, Long: E86°29'9.276" TO E 86°29'13.632"E	Open Cast
41	Stone	DEO NARAYAN MAHTO AND SUNIL KUMAR MAHATO	Na	Pending at High Court	1.3	-	-	-	-	-	Non Working	Non-Captive	-	Lat: N23°44'26.876" TO N 23°44'25.116" N, Long: E86°30'55.115" TO E 86°30'53.495"E	Open Cast
42	Stone	KAZI ASIR AHMAD	Kazi Ansari Ahmad S/O Chotu Kazi Add-Mayur Nachan, Po- Nagar Kiyari Ps- Tundi, Dhanbad	04-12-2007	0.607	10-02-2008	09-02-2018	-	-	EC Pending	Non Working	Non-Captive	EC Pending	Lat: N23°54'14.46" TO N 23°54'16.01" N, Long: E86°26'00" TO E 86°26'0.5"E	Open Cast
43	Stone	KULDIP KR. CO.	Kuldip Kr. Sco. Auth- Kuldip Kumar Agrwal Add+Po-Ps-Baliyapur, Dhanbad	3108, 20/08/2008	2.3	12-09-2008	11-09-2018	12-09-2018	31-03-2020	26-09-2015	Non Working	Non-Captive	Yes, ec/seiaa/2015-16/1269/2015/210, 15/12/2015	Lat: N23°41'37.3" TO N 23°41'43.0" N, Long: E86°36'39.7" TO E 86°36'43.0"E	Open Cast

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44	Stone	M/S BANIRANG STONE WORKS	M/S Banirang Stone Works Auth-Sri Mukesh Kumar Sharma S/O- Teluram Sharma Add-Katras Bazar, Dhanbad	03-07-2002	1.113	28-09- 2002	27-09- 2012	Not Applicable	Not Applicable	EC Pending	Non Working	Non- Captive	EC Pending	Lat: N23°54'20.00" TO N 23°54'23.15" N, Long: E86°09'06.8" TO E 86°09'11.23"E	Open Cast
45	Stone	MANOJ KUMAR MAHATO	Manoj Kumar Mahato, S/O-Sri Radhe Mahato, Add- Paharpur, Baliyapur, Dhanbad	1343, 01.-0- 2011	0.809	12-12- 2011	16-12- 2021	Not Applicable	Not Applicable	EC Pending	Non Working	Non- Captive	EC Pending	Lat: N23°44'26.4" TO N 23°44'29.7" N, Long: E86°30'50.6" TO E 86°30'57.7"E	Open Cast
46	Stone	MD HASIMUDIN ANSARI	MD Hasimudin Ansari, S/O-Idarish Ansari, Add-Po:- Jangalpur, Ps:- Govindpur, Dhanbad	3048, 06/08/2008	0.963	28-11- 2008	27-11- 2018	Not Applicable	Not Applicable	28-11-2008	Non Working	Non- Captive	-	Lat: N23°50'15.97" N N 23°50'13.56"N N 23°50'12.59"N N23°50'15.41"N Long: E86°34'28.28"E 86°34'31.22" E 86°34'31.42"E	Open Cast
47	Stone	MD IMRAN ANSARI	Pro Md Imran Ansari, Villi Dumdumi, Po/Ps Govindpur, Distt Dhanbad	29-10-2005	0.991	30-11- 2005	29-11- 2005	Not Applicable	Not Applicable	30-11-2005	Non Working	Non- Captive	-	Lat: N23°47'46.406" TO N 23°47'45.888" N, Long: E86°38'12.335" TO 86°38'14.891"	Open Cast
48	Stone	MD TAHIR ANSARI	Md Tahir Ansari S/O:- Wasirudin Ansari Add-Po:- Jangalpur, Dhanbad	831, 04/03/2009	1.32	04-06- 2009	03-06- 2019	Not Applicable	Not Applicable	04-06-2009	Non Working	Non- Captive	-	Lat: N23°48'19.13" TO N 23°48'22.2" N, Long: E86°35'21.73" TO E 86°35'24.63"E	Open Cast
49	Stone	MD TAMLUUDIN ANSARI	Mouza Jangalpur Ps Govindpur Dhanbad	04-05-2006	0.218	31-07- 2006	30-07- 2016	Not Applicable	Not Applicable	21-08-2006	Non Working	Non- Captive	-	Lat: N23°50'8.412" TO N 23°50'10.11" N, Long: E86°34'29.388" TO E 86°34'33.384"E	Open Cast

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50	Stone	MD-AKRAM ANSARI	Md. Ekram Ansari, S/O- Jawed Ansari, Add- Amjhar, Ballyapur, Dhanbad	05-05-2008	0.445	20-08- 2008	19-08- 2018	Not Applicable	Not Applicable	Rejected	Non Working	Non- Captive		Lat: N23°44'50.9" TO N 23°44'54.9" N, Long: E86°30'55.3" TO E 86°30'57.3"E	Open Cast
51	Stone	MD. HASIM	Md. Hasim, S/O- Shekh Dil Mahato Add- Amjhar, Ballyapur, Dhanbad	06-02-1996	-	27-05- 1996	26-05- 2006	27-05-2006	26-05-2016	27-05-1996	Non Working	Non- Captive	Yes, PC/NOC/DHN/12/B- 923, 10/04/2015	Lat: N23°43'41.39" TO N 23°43'44.77" N, Long: E86°30'19.97" TO E 86°30'19.01"E	Open Cast
52	Stone	MD. MOIN ANSARI	MD MoIn Ansari S/O- Habib Ansari Add- Bichhakata, Hariharpur, Dhanbad	26-05-2001	0.4	03-08- 2001	02-08- 2011	03-08-2011	02-08-2021	03-08-2001	Non Working	Non- Captive	Yes, EC/SEIAA/2014- 15/517/2014/1302, 17/08/2015	Lat: N23°50'55.00" TO N 23°50'55.00" N, Long: E86°10'34.60" TO E 86°10'35.01"E	Open Cast
53	Stone	MS APCO INFRA TECH LIMITED	Add Jangalpur, Ps Govindpur Dhanbad	230, 09/02/2015	3.4	08-12- 2014	13-03- 2025	Not Applicable	Not Applicable	Terminated	Non Working	Non- Captive	Yes, 362, 07/05/2014	Lat: N23°49'59.232" TO N 23°50'02.652" N, Long: E86°34'34.283" TO 86°34'39.216"	Open Cast
54	Stone	MS BAIRANBALI MINIRILAS	Sri Mukesh Kumar Singh S/O Manishankar Singh 2. Kailash Singh S/O Indrajit Singh Add- Golmara, Poparadha Dhanbad	-	0.542	-	-	-	-	Terminated	Non Working	Non- Captive	-	Lat: N23°44'27.816" TO N 23°44'28.752" N, Long: E86°28'1.092" TO 86°27'59.075"	Open Cast

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55	Stone	MS DAROGA PRADHAN	M/S Daroga Pradhan, Partner:- Sri Dinesh Pradhan, S/O Lt Daroga Pradhan Add:- Adarash Nagar, Hirapur, Dhanbad	819, 11/05/2017	0.708	27-05-2016	31-03-2020	Not Applicable	Not Applicable	Not Applicable	27-05-2016	Non Working	Non-Captive	Yes, EC/SEIAA/2015-16/1025/015/1720, 26/10/2015	Lat: N23°44'57.80" TO N 23°44'59.9" N, Long: E 86°28'48.7" TO E 86°28'50.6"E	Open Cast
56	Stone	MS JAI SHIVSHAKTI STONE WORKS	Salukchakra Ps Nirsa Dhanbad Shaktipadde2014@Rediffmail.Com	12038, 09/09/2008	0.648	-	-	-	-	-	Terminated	Non Working	Non-Captive	-	Lat: N23°45'36.742" TO N 23°46'21.986" N, Long: E 86°38'11.436" TO 86°37'40.548"	Open Cast
57	Stone	MS JANTA STONE WORKS	M/S Janta Stone Works Auth:-Sri Awtar Singh S/O-Lt Mohan Singh Add+Po-Topchanchi, Dhanbad	28-04-2002	0.708	04-06-2002	03-06-2012	03-06-2022	04-06-2002	04-06-2002	04-06-2002	Non Working	Non-Captive	Yes, EC/SEIAA/2014-15/469/2014/707, 31/12/2014	Lat: N23°53'09.7" TO N 23°53'09.9" N, Long: E 86°14'37.6" TO E 86°14'39.6"E	Open Cast
58	Stone	NIJAMUDDIN ANSARI	Vill Bastipur, Po Bagsuma, Ps Gobindpur, Distt Dhanbad	05-06-1998	0.607	14-08-1998	13-08-2008	13-08-2018	14-08-1998	14-08-1998	14-08-1998	Non Working	Non-Captive	-	Lat: N23°47'6.31" TO N 23°47'3.739" N, Long: E 86°34'2.46" TO 86°34'2.928"	Open Cast
59	Stone	NIMAI CHANDRA MANDAL	Nimai Chandra Mandal S/O- Manpuran Mandal Add- Ajhamar, Ballyapur, Dhanbad	3036, 02-11-1992	0.42	31-01-1993	30-01-2003	30-01-2013	31-01-1993	31-01-1993	31-01-1993	Non Working	Non-Captive	-	Lat: N23°44'05.5" TO N 23°44'04.9" N, Long: E 86°29'31.2" TO E 86°29'32.8"E	Open Cast
60	Stone	PITAMBAR PRAMANIK	Pitambar Pramanik, S/O- Sri Balram Pramanik Add- Lakhipur, Po- Nirasa Dhanbad	10-07-2004	-	11-09-2004	10-09-2014	Not Applicable	Not Applicable	Not Applicable	Not applicable	Non Working	Non-Captive	EC Pending	Lat: N23°43'49.3" TO N 23°43'51.03" N, Long: E 86°37'52.3" TO E 86°37'55.3"E	Open Cast

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61	Stone	PRITPAL SINGH AND SHIVLAL GOPE	1. Pritpal Singh S/O- Darshan Singh Amjhar, Ballyapur. 2. Shival Gope, S/O- Guhi Gope, Pradhankhata, Ballyapur, Dhanbad	25-10-2002	4.05	21-01-2003	Renewal Pending	Renewal Pending	21-01-2003	Non Working	Non-Captive	Open Cast	Lat: N23°44'44.5" TO N 23°44'52.0" N, Long: E86°32'42.2" TO E 86°32'56.0" E
62	Stone	RAGHABENDR A KUMAR PANDE	Raghabeendra Kr. Pandey S/O- Lt Ramnath Pandey Add+Po- Paragha, Ps- Ballyapur, Dhanbad	710, 24-05-2002	0.526	22-06-2000	Renewal Pending	Renewal Pending	22-06-2000	Non Working	Non-Captive	Open Cast	Lat: N23°43'57.15" TO N 23°44'01.99" N, Long: E86°29'31.12" TO E 86°29'34.46" E
63	Stone	RAJESH KUMAR	Pro Rajesh Kumar, Vill Manaitanr, Mandir Road, Ps Dhanar, Distt Dhanbad	11-03-2002	1.21	20-03-2012	Not Applicable	Not Applicable	21-03-2002	Non Working	Non-Captive	Open Cast	Lat: N23°45'05.5" TO N 23°45'10.3" N, Long: E86°28'57.3" TO E 86°29'01.2" E
64	Stone	RAM DAS CHATARJEE	Ram Das Chatarjee S/O- Lt Radhika Prasad Chatarjee Add+Po- Ps Nirsa, Dhanbad	823, 04-03-2005	0.959	03-06-2019	Not Applicable	Not Applicable	07-07-2009	Non Working	Non-Captive	Open Cast	Lat: N23°43'47.6" TO N 23°43'49.3" N, Long: E86°38'00.2" TO E 86°38'4.9" E
65	Stone	RAMKESHAR MAHATO	Ramkesh Mahato, S/O- Paharpur, Po+Ps- Ballyapur, Dhanbad	10-03-1999	0.81	25-04-2009	Not Applicable	Not Applicable	26-04-1999	Non Working	Non-Captive	Open Cast	Lat: 23°44'17.8"N TO 23°44'13.2" N, Long: E86°31'04.1" TO E 86°31'00.7" E
66	Stone	Md. Toukir	Md. Toukir, S/O Habib Ansari, Add- Bichhakata, Hariharpur, Dhanbad	06-05-2005	0.364	Pending	Not Applicable	Not Applicable		Non Working	Non-Captive	Open Cast	Lat: 23°50'52.29" N to 23°51'01.6" N, Long: 86°10'31.89" E to 86°10'32.00" E
67	Stone	RAJNA UDAY PRATAP SINGH	Rana Uday Pratap Singh, S/O- Sri Rana Ranvijay Pratap Singh Add- Vishanpur Nala Jay Prakash Nagar Po+Ps- Dhanbad	2633, 05-08-2006	1.436	27-06-2006	Not Applicable	Not Applicable		Non Working	Non-Captive	Open Cast	Lat: N23°43'47.00" TO N 23°43'49.9" N, Long: E86°35'07.00" TO E 86°35'09.80" E

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68	Stone	Sadaur Rahman Stone Quarry	Prop Sadaur Rahman, VIII/PO/PS - Ballapur, Dist. - Dhanbad, sada_del@hotmail.co m	15-12-2003	0.607	29-02- 2004	28-02- 2014	29-02-2014	29-02-2024	16-02-1994	16-02-2014	1st:16-02- 2004,2nd- 16-02-2014	1st:15-02- 2014,2nd-15- 02-2024	29-02-2014	Non Working	Non- Captive	Yes, EC/SEIAA/337, 31.03.2014	Lat: 23°41'30.07 N to 23°41'31.07°N, Long. 86°10'34.60' E to 86°34'18.64'E	Open Cast
69	Stone	MS New Shiv Shakti Stone Works	Sabalgarha, PO - Ballapur Dhanbad	15-12-1993	1.21	16-02- 1994	15-02- 2004	16-02-1994	1st:16-02- 2004,2nd- 16-02-2014	16-02-1994	16-02-1994	1st:16-02- 2004,2nd- 16-02-2014	1st:15-02- 2014,2nd-15- 02-2024	16-02-1994	Non Working	Non- Captive	Yes, EC/SEIAA/2015- 16/1137/2015/1773, 15.10.2015	Lat: 23°45'13.098 N to 23°45'15.044°N, Long. 86°28'58.116' E to 86°28'56.388'E	Open Cast

District survey Report for Minor Minerals other than sand (Stone)

Table 12 List of Proposed Stone Potential Area in the District on Raiyat Land

Sl. No.	Name of the Mineral	Name of the Applicant	Address & Contact No. of the Applicant	Area of Mining lease to be allotted
1	2	3	4	5
1.	Stone	M/S R.N Enterprises Prop. - Nasim Ansari, S/O kutubudin Ansari	Village-Murgabani, PO- Jangalpur, PS- Govindpur, District - Dhanbad	Mauza - Dumuria Plot no - 4651 & 4668, Area -1.35 Acres
2.	Stone	Prop. - Sri Nitesh kumar pandey, S/O sri Santosh kumar pandey	Durga Colony, Dughda, PO & PS- Dughda, District - Bokaro	Mauza - Barwadih Khata no- 64, 65, 19, 14, Plot no - 1306(P), 1307(P), 1308(P), 1300, 1302, 1298, 1299 Area -3.08 Acres
3.	Stone	Partner I. - Md. Moinuddin Ansari, S/O Md. Hussain Ansari, Partner II. - Md. Mubarak Ansari, S/O Md. Riyasat Ansari	Village+PO- Jangalpur, PS- Govindpur, District - Dhanbad	Mauza -Jangalpur Plot no -148, 149, 152(P),153(P), 154(P), 155, 156, 164(P), Area -3.50 Acres
4.	Stone	M/S Shivam Stone mining, Partner - (i)Santosh Mehta, S/O Chaman Mehta, (ii)Govinda Mishra	(i)Village+PO- falwaria, PS- Nawalsahi, District - Kodarma (ii) Village - Pagaldih, PO+PS - Bagodar, District - Giridih	Mauza -Dubrajpur Plot no -3, 4, 5, 6, 7, 8, 9, 15(P), 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30 .31,32(P),54,55,56,129(P),130,131,132,133(P) Area -6.94 Acres
5.	Stone	M/S Maa tara Minerals, Partner - (i) Utpal Kumar, (ii)Watan Mahato, S/O Sundar Mahato	(i)Village-Maheshmunda, PS- Giridih, District - Giridih, (ii) Village+PO- Vedkaro, PS- Gandhinagar, District - Bokaro	Mauza - Machhaidaha Plot no -1349, 1364, 1377, 1366, 1378, 1379, 1373, 1374, 1332, 1368, 1369, 1367, 1370, 1371, 1372, 1338, 1351, 1354, 1355, 1369, 1375, 1321, 1365, 1330, 1328, 1376, 1352, 1353, Area -6.27 Acres

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6.	Stone	M/S Shiv Mahima Stone Works, Partners: (i) Ram Lakhan Mehta S/o Late Roshan Dev Mehta (ii) Sri Narayan Saw S/o Panyu Saw	(i) Village-Chehkapi, PO Chehkapi, PS- Barkatha, District - Hazaribagh (ii) Village+P.O - Chehkapi, Thana - Barkatha, District - Hazaribagh	Mauza - Khonathi Khata no- 243, 249, 122, 263 Plot no -2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2655, 2656, 2657, 2658 & 2651 Area -6.93 Acres
7.	Stone	Partner - (i) Tulsi Kumar Pandey S/o Late Ashish Mani Pandey (ii) Basudev Mehta S/O Badri Mehta	(i) Village-Phulwar, PO- Pradhankhanta, PS- Katras, District - Dhanbad (ii) Village - Baghi, PO - fulwari, PS- Nawalsahi, district - Kodarma	Mauza - Machhaidaha Khata no- 55 Plot no -38 Area -3.77 Acres
8.	Stone	Prop. - Sri Santosh Kumar Munshi S/O Sri Rajendra Prasad Munshi	Village+ PO - Daludih, PS- Rajgang, District - Dhanbad	Mauza - Hikimaral Khata no- 99, 68, 11, 124, 149 Plot no -3279, 3280, 3281, 3282, 3283, 3284, 3285, 3287, 3288, 3294, 3295, 3296, 3297, 3298, 3299, 3301, 3352, 3355, 3356, 3357, 3358 & 3359 Area -5.19 Acres
9.	Stone	M/S Ajay Singh, Prop.- Sri Ajay Singh S/O Sri Rajendra Singh	Main Road, Chas Road, Vaypar Mandal Gali, Jaina More, PS - Jaridih, District - Bokaro	Mauza - Chalmurari Khata No - 43 Plot No -366, 365, 380, 364, 367, 254, 255, 264, 265, 270, 271, 272 Area -4.44 Acres
10.	Stone	M/S Nishitpur Stone Works, Partner - (i) Sri Ishwar Lal Mahto S/O Hiralal Mahto, (ii) Sri Mahesh Mahto S/C Sri Jagdam Mahato, (iii) Sri Denglal Mahato S/O Late Vishwanath Mahto, (iv) Sri Rajesh Prasad Verma S/O Jharkhandi Mahto, (v) Sri Jalendra Kumar Mehta S/o Yagul Kishor Mehta	Village - Nishchitpur PO - Khario PS - Barora District - Dhanbad	Mauza - Nishitpur Khata No - 347 Plot No -1204(P), 1208, 1210, 1211(P), 1213(P), 1205, 1206, 1207, 1209, & 1214 Area -7.30 Acres
11.	Stone	Prop. - Sri Manoj Kumar, S/O Sri Jagdish Singh	AT-Ram Mandir Road Kusumbihar, P.O - B.C.C.L Township, PS - Saraidhela, District - Dhanbad	Mauza - Dhekjora Khata No. -45 Plot No - 1531, 1532, 1529, 1530, 1481, 1482, 1483, 1484, 1476, 1478, 1479, 1480

District survey Report for Minor Minerals other than sand (Stone)

	Stone	Prop. - Sri Kaushal Kumar Sharma , S/O Late K.L. Sharma	AT-Upper Kulhi , P.O&PS -Jharia, District - Dhanbad	Area -2.94 Acres Mauza - Mahlidih Khata No. -49,58,123 Plot No - 1527,1494(P),1538(P),1495(P) ,1517,1518,1519,1520,1521,1522 Area -4.86 Acres
12.	Stone	Prop. - Afak Ahmed S/O Sanullah Ansari	Village +PO - Jangalpur District -Dhanbad	Mauza - Asana Plot No - 3941, 3858, 3939, 3940, 3854 Area -3.96 Acres
13.	Stone	Prop. - Sri Himanshu Kedia S/O Sri Din dayal Kedia	Village - Jhumri Teliya , PO - Jumri Teliya , PS - Teliya , District - Koderma	Mauza -Khurdih Plot No - 1206(P), 1210 , 1211(P), 1212(P), 1216 1218(P), 1393(P), 1394(P), 1398 & 1400(P) Area -4.45 Acres
14.	Stone	M/S Daroga Pradhan , Prop. - Dinesh Pradhan	Adarsh Nagar , Hirapur, PO+PS - Dhanbad , district _ Dhanbad	Mauza - Dudhiya Plot No - 5349, 5350, 5351, 5356, 5357, 5358, 5359 Area -6.27 Acres
15.	Stone	Prop. - Md. Afjal Ansari S/O Late Maniruddin Ansari	Village+PO- Jangalpur , PS- Govindpur , District - Dhanbad	Mauza - Garga Plot No - 1289 & 1303 Area -3.62 Acres
16.	Stone	M/s Maa Bhawani Stone Mines Prop. - Anand Rajesh S/o Captain Anand	Village+P.O+P.S. - Jhumri Tilaiya District - Koderma	Mauza - Kulbona Plot no.- 321(P) Area - 3.00 Acre
17.	Stone	M/s Maa Bhawani Stone Mines Prop. - Anand Rajesh S/o Captain Anand	Village+P.O+P.S. - Jhumri Tilaiya District - Koderma	Mauza - Kulbona Plot no.- 514, 515, 691(P), 692, 528, 529, 532, 537 Area - 3.78 Acre
18.	Stone	Prop. - Kuldeep Kumar Agarwal	Add-Po+Ps-Baliyapur, Dhanbad	Mauza - Jaipur Mauza No - 154 Plot No - 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 2170, 2188, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 165, 169, 155/3417
19.	Stone	Prop. - Sri Amit Kumar Mandal S/O Sri Sudhan Chandra Mandal	Vill.- Asanbani,PO-Vitya,PS- Govindpur,Dhanbad	Mauza - Tentulia Mauza No - 188 Plot no.- 2296, 2291, 2290, 2289, 2275, 2276, 2277, 2278,
20.	Stone			

District survey Report for Minor Minerals other than sand (Stone)

21.	Stone	Prop. - Sri Amit Kumar Mandal S/O Sri Sudhan Chandra Mandal	Vill.- Asanbani, PO-Vitya, PS- Govindpur, Dhanbad	2279, 2270, 2271, 2273, 2274. Mauza - Tentulia Mauza No - 188 Plot no.-2889, 2894, 2906, 2907
22.	Stone	M/s Maa Bhagwati Enterprises, Partner - (i) Sri Binay Kumar Mandal S/O Sri Dharani Dhar Mandal (ii) Sri Vivek Kumar S/O Sri Jagdish Singh	(i) Village - Barwadda, P.O - Kalyanpur, Dhanbad (ii) Village - Kusum Vihar, P.O- Bcl Township Koyla Nagar , P.S- Saraidhela, Dhanbad	Mauza - Dhekjora Mauza No - 141 Khata No. - 04, 48, 48 Plot no.-1448, 1449, 1450 Area - 4.48 Acres
23.	Stone	Prop. - Sri Asit Kumar Mandal S/O Sri Sudhan Chandra Mandal	Vill.- Asanbani, PO-Vitya, PS- Govindpur, Dhanbad	Mauza - Garga Plot no.-186, 190, 191
24.	Stone	Prop- Sri Pramod Kumar singh	Vill.- Keshka , Dhanbad	Mauza - Keshka Khata No. - 185 Plot no.-280(P) Area - 3.00 Acres
25.	Stone	M/S Shiv Stone Mining Part-(i) Ashish kr, Verma, S/O Sri Narayan Mahato , Part(ii) Bijay Kr. Singh , S/O Late Devendra nath singh	(i) Vill. - Baghra , PO - Motileda , Giridih (ii) Vill.- Kharalbad , Po - Mandarthi , Giridih	Mauza - Nepaidih + Brahmandiha Plot No - 300, 301(P), 347(P), 348, 349, 350, 351, 352, 353, 354, 356, 357, 358, 359, 360, 361, 362, 363, 1119, 1121, 1122, 1123, 1124, 1352(P) Area - 7.19 Acres
26.	Stone	D.P.S Construction Prop- Dinesh Kumar , S/O Sri Krishna Dev Prashad	Vill - Himgiri Kunj, Po +Ps- Hatia , Ranchi	Mauza - Bhiknidih Plot No -109, 135, 111, 112, 138, 136, 140 Area - 3.09 Acres
27.	Stone	M/S Ganpati Minerals Part - (i) Ramchandra Mehta , S/O Chotelal Mehta , Part (ii) - Lalan Kumar Singh , S/O - Ramraj singh , Part(iii) Arvind Kumar , S/O - Bateshwar Prasad Mehta	(i) Add- 3igha , Phulwariya , Kodarma (ii) Add+PO - Bhusai , Hazaribag (iii) Add - Chanda , Ichak , Hazaribag	Mauza- Khatdih Plot No - 2258, 2263, 2259, 2195, 2203, 2257, 2264, 2766, 2204, 2217(P), 2218, 2256, 2265, 2202, 2274(P), 2261, 2262, 2191, 2267, 2167, 2192, 2219, 2205(P), 2765 Area - 5.40 Acres
28.	Stone	M/S Daroga Pradhan , Prop. - Dinesh Pradhan	Adarsh Nagar , Hirapur, PO+PS - Dhanbad , district _ Dhanbad	Mauza - Dudhiya Plot No - 5340, 5341, 5342, 5346, 5347, 5352, 5353, 5354 Area -6.02 Acres

District survey Report for Minor Minerals other than sand (Stone)

29.	Stone	Part(i). - Md. Afjal Ansari S/O Late Maniruddin Ansari , Part (ii) - Shahid Fazal , S/O Akbar Ansari	Village+PO- Jangalpur , PS- Govindpur , District - Dhanbad	Mauza - Dudhiya Plot No - 5230, 5226, Area -6.35 Acres
30.	Stone	M/S Durga Stone Part- (i) Prabhat Ranjan, S/O Indar Kr. Yadav, Part - (ii) Rajendra Mehta , S/O Choti Mehta	(i) Vill - 105 Patna ranchi Road Coal Tax Muhallah ,Kodarma (ii) Maheshpur, Domchanch , Kodarma	Mauza - Khatdih Khata No - 116 Plot No - 2286(P) Area -5.0 Acres
31.	Stone	M/S Stately Infrastructure Part (I)-Virendra Kumar , S/O Nandlal Nayak Part (II)- Nishant Kumar , S/O - Satrudhan Mahato	(i) Vill - Harina , Nawagadh , Barora (ii) Vill - Chitahi Basti, Barora Dhanbad	Mauza - Pochari Khata No - 108,30,111,63 Plot No - 557,554(P),558,561 Area -7.05 Acres
32.	Stone	Prakash Stone Developer Prop. - Md. Arman Ansari	Vill- Ena Islampur , PO- Bhagatdih , PS - Jharia, District - Dhanbad	Mauza - Tentuliya Khata No - 108,30,111,63 Plot No -14(P), 15, 16, 17, 18, 19, 20, 21, 22, 23, 24,25,26, 27,28,29,30,31,42,43,44,45,46,47,48,49,50,51,52,53,54,57 ,58,59,60,62,63,64,65,66,67,68,69,70,79,91,92,93,96,97 Area -5.34 Acres
33.	Stone	Parthavi Mining and crushing Part (I) - Sujit kumar seth , S/O Vanshi Ram, Part (II) - Nitin kumar , S/O Raghunandan Ram Lohani , Part (III) - Manikant Kumar Bharti , S/O Binod Kumar , Part (IV) - Rajkumar Jaiswal , S/O Jaikishan Jaiswal, Part (V) - Saurav Kumar Bhadani , S/O Arun Kumar Bhadani	Ishri Bazar , PO - Ishri Bazar , Thana - Nimyaghat , District - Giridih	Mauza - Kharni Plot No - 309, 310, 306, 308, 318/1757 Area - 5.22 Acres
34.	Stone	M/s Deepak Enterprises, Partner - (i) Sri Dipak Kumar Mahato , S/O Uma Shankar Mahato. (ii) Abhiroop Shourya, S/O Vijay Kumar Mehta	(i) Village - Aadarsh Nagar, Telipada, Hirapur, Dhanbad (ii) At: Domchanch, Dhab Road, Phulwari , P.O.: Domchanch Bazar, Thana & District: Koderma	Mauza - Nichtpur Khata No - 08 Plot no. - 1459
35.	Stone	Prop. - Pramod Kumar Singh	Vill.- Keshka , Dhanbad	Mauza - Saparo Khata No. - 20,28 Plot no.-536,537,538

District survey Report for Minor Minerals other than sand (Stone)

				Area - 6.84 Acres
36.	Stone	Prop. - Pramod Kumar Singh	Vill.- Keshka , Dhanbad	Mauza - Saparo Khata No. - 13 Plot no.-662 Area - 2.62 Acres
37.	Stone	Prop. Neeraj Kumar	Vill. - Bachehdih , Nawalsahi , Kodarma	Mauza - Laxmanpur Plot no. - 40,41,42,32,33,34,35,36,37,38
38.	Stone	Prop. Neeraj Kumar	Vill. - Bachehdih , Nawalsahi , Kodarma	Mauza - Khurdih Plot No.-1418, 1419, 1420, 1421, 1422, 1423, 1424, 1425, 1426,1427,1428,1429,1430,1431,1432,1433,1434,1435,1 436,1437,1438,1439,1440,1441 Area - 4.22 Acres
39.	Stone	M/S Hanumant Stone Minerals Part (I) -Sri Shiv Ratan Sangai, S/O Late Ram Prasad Sangai , Part (II) - Sri Binod Kumar , S/O Late Triloki Ram , Part (III) - Sri Rchit Khatuwala , S/O Sri Pradeep Khatuwala	(I) - Ranchi Patna road , Shree Ram Apartment Jhumritelaiya , Ward No -9, P.S - Telaiya , Koderma , (II) -At - Nagarkhara, Jalwabad, Ward No - 1, P.O.+P.S & Dist. - Koderma, (III) -At & PO - Jhumritelaiya , Addi Banglow Road, Shyam Baba Path, Ward No - 14,P.S - Telaiya , Dist. - Koderma	Mauza - Ramakunda Khata No. - 78,148,440,147 Plot no. - 823, 824, 874(P), 825, 861(P), 862, 863, 864, 865, 866, 867, 868 Area - 7.19 Acres

Note - Any other Area which may be found feasible for Stone Mining shall be included in the DSR prospective

District survey Report for Minor Minerals other than sand (Stone)

Table 13: Auctionable Potential Blocks by Directorate of Geology

Sl. No	Block Name	District	Area
1.	Paharpur	Dhanbad	
2.	Sabaigarha	Dhanbad	
3.	Barwadih	Dhanbad	
4.	Saldaha	Dhanbad	
5.	Marro B	Dhanbad	
6.	Marro D	Dhanbad	

Sl. No	Block Name	Mauza	District	Plot No	Total Area
7.	Tundi	Keshka	Dhanbad	280(P),281(P),294(P),296(P),298(P),299(P),301(P),362(P),884(P),886(P),887(P),888(P),1377(P),1378(P).	3.66 Ha
8.	Nirsa	Hikimaral	Dhanbad	1254,1542,1543,1553,1571,1558,(P) & 1535	5.64 Ha
9.	Baliyapur	Shitalpur	Dhanbad	168,169,177,183-195,207,208,215,218-232,234-242,244,245,859-866,1244-1248,1281-1290,1303-1309	4.50 Ha
10.	Baliyapur	Salukchapra	Dhanbad	381,382,384-388,390-404,406-413,418-424,429-443	3.05 Ha
11.	Tundi	Keshka	Dhanbad	299-305	315 Ha
12.	Baliyapur	Sabaigarha	Dhanbad	323-327,329,348,349	5.00 Ha

Source: Assistant Director Geology, Bokaro

Area reserved for M/s JSMDCL vide Gazette No.309 dated 17.06.2021 of Department of Mines and Geology.

Sl. No.	Name of Block/Village	Mineral & Area	Plot No.	District	Coordinates
01	Hikimaral	Stone (5.64 Ha)	1254,1542,1543,1553,1571,1558,(P) & 1535	Dhanbad	Lat.- 23°53'22.491"N to 23°53'38.258"N & Long.- 86°40'23.837"E to 86°40'40.494"E

District survey Report for Minor Minerals other than sand (Stone)

Table 14: Successful Bidder List

Sl. No.	Block	District	Preferred Bidder	Coordinates	LOI No.
1.	Marro-A Stone Block Area – 4.99 Acres Khata no – 20 Plot no – 386(P)	Dhanbad	Ajit Kumar Singh	Latitude - 23° 52' 00.20" N to 23° 52' 2.30" N and Longitude - 86° 29' 25.60"E to 86° 29' 32.50"E	1881 01-09-2022
2.	Marro Stone Block Area – 2.99 Acres Khata no – 20 Plot no – 386(P)	Dhanbad	Ajit Kumar Singh	Latitude - 23° 52' 00.20" N to 23° 52' 2.30" N and Longitude - 86° 29' 25.60"E to 86° 29' 32.50"E	1882 01-09-2022
3.	Marro-C Stone Block Area – 3.50 Acres Khata no – 20 Plot no – 386(P)	Dhanbad	Roshan Kumar Hansda	Latitude: 23°52'01.13" N to 23°52'06.43" N, Longitude. 86°29'27.75" E to 86°29'33.10619" E	1625 29-07-2022
4.	Keshka Stone Block Area – 2.80 Khata no – 185 Plot no - 301	Dhanbad	Tej Narayan Singh	Latitude: 23° 54' 16.67" N to 23° 54' 21.02" N, Longitude- 86° 24' 59.95" E to 86° 25' 07.44" E	2076 30-09-2022

Source: District Mining Office, Dhanbad

District survey Report for Minor Minerals other than sand (Stone)

Table 15: Details of Royalty received in last three years

UNIT INR

<u>Minor Mineral</u>	<u>2021-2022</u>	<u>2022-2023</u>	<u>2023-2024</u>
Stone	138792710	152791686	133647934

Source: District Mining Office, Dhanbad

Chapter - 11 Details of Production of Minor Mineral in last three years

Table 16: Production of Minor Mineral in last three years

<u>Minor Mineral</u>	<u>2021-2022</u>	<u>2022-2023</u>	<u>2023-2024</u>
Stone	17852845 CFT	20999048.52 CFT	18687367.5 CFT

Source: District Mining Office, Dhanbad

Chapter – 12 Mineral Map of the Dhanbad District



Figure 12 - Mineral map of Dhanbad

Chapter – 13 List of Letter of Intent (LOI) Holders in the District**Table 17: LOI holders in the District**

Sl. No.	Name of the Mineral	Name of the Lessee	Address & Contact No. of Letter of Intent Holder	Letter of Intent Grant Order No. & date	Area of Mining lease to be allotted	Validity of LoI	Use (Captive/ Non-Captive)	Location of the Mining lease (Latitude & Longitude)
1	2	3	4	5	6	7	8	9
1.	Stone	Partners – (i) Md Khalid Hussain, S/O - Aabid Hussain, And (ii) Firoj Ansari, S/O - Abdul Ansari	(i) Village - Jangalpur PS & PO - Govindpur, Dist. - Dhanbad, And Partner - (ii) VILLAGE + PO - Jangalpur, PS - Govindpur, District - Dhanbad	Letter No - 878/MO/D hanbad, Date - 16/03/2022	Mauza - Sahraj Thana no - 210, New Khata no - 344, Old Khata no - 135, New Plot no - 4560, 4572, 4568, 4569, 4573, 4570, 4571, 4575, 4562, Old Plot no - 3798, 3799, 3761, 3797, 3782, 3783, 3789, 3785, 3784, 3790, 3800, Area - 2.39 Acres	NA	Non-Captive	23° 53' 0.904" N to 23° 53' 5.433" N & 86° 38' 36.325" E to 86° 38' 40.285" E

District survey Report for Minor Minerals other than sand (Stone)

2.	Stone	Prop. - Sri Binay kumar Mandal, S/O - Dharnidhar Mandal	Village - Barwadda, PO - Kalyanpur, PS - Barwadda, District - Dhanbad	Letter No - 3389/MO/ Dhanbad, Date - 29/12/202 2	Mauza - Bhurusa & Lakhipur, Khata no - 163 & 162 , Plot no - 124, 125, 127, 128, 129, 130(P) & 437(P) , Area - 3.75 Acres	NA	Non- Captive	23°43'53.38538"N to 23°43'46.11392"N & 86°37'36.67667"E to 86°37'32.87813"E
3.	Stone	Prop. - Abdul Moid Alam, S/O - Majhar Alam	VILLAGE + PO - Jangalpur, PS - Govindpur, District - Dhanbad	Letter No - 25/MO/Dha nbad, Date - 05/01/202 3	Mauza - Jangalpur Thana no - 202 Khata no - 439, 307, 232, 564 Plot no - 24(P), 25(P) , 26, 27, 28, 29, 91(P), 93, 96, 97, 119(P), 120(P), 94, 95 & 99, Area - 2.35 Acres	NA	Non- Captive	23°50'09.67769"N to 23°50'06.15433"N & 86°34'15.20933"E to 86°34'09.44868"E
4.	Stone	M/S S.B.A. Minerals, Partner -(i) Santosh Kumar Munshi, S/O - Rajendra Prasad Munshi, (ii) Binod kumar, S/O Trilok Ram (iii) Ankit Kumar singh, S/O - Manoj Kumar Singh	(i) VILLAGE + P.O - Dalludih, P.S - Rajganj, Dist. - Dhanbad(ii) VILLAGE - Nagarkhara Jalwabad P.O & P.S - Kodarma,	Letter No - 22/MO/Dha nbad, Date - 05/01/202 3	Mauza - Kadaiya, Thana No - 152, Khata no - 23, 24, 189 Plot No - 223, 224, 225, 226, 227, 472,	NA	Non- Captive	23°54'17.92292" N to 23°54'10.32793" N & 86°26'15.66258"E to 86°26'02.75428"E

District survey Report for Minor Minerals other than sand (Stone)

		(iii) P.ot No - 9(D) CO- Operative Colony , Anard Clinic, Kalakusuma , Dist. - Dhanbad		478 , 479 , & 480 , Area - 5.70 Acres				
5.	Stone	M/S Jai Maa Mansa Stone Mines , Partner - (i) Niwas Kumar Tiwari , S/O Late Hari Prasad Tiwari (ii) Shiv ratan Sangai, S/O - Late Ram Prasad Sangai	(i) VILLAGE - Dhawachita , P.O + Thana - Rajganj , Dist - Dhanbad , (ii) VILLAGE +PO - Jkumri Telaiya , Thana - Telaiya , Dist. - Kodarma	Letter No - 179/MO/D hanbad , Date - 09/02/2023	Mauza - Brahmandiha , Thana No - 162 , Khata no - 67 Plot No - 1113 , 1114 , 1115 , Khata no - 135 Plot No -1109 , 1118 , 1125 , 1127 & Khata no - 108 Plot No - 1116 , 1117 , 1126 , Area - 3.37 Acres	NA	Non- Captive	23°52'42.48829" N to 23°52'37.45171" N & 86°16'25.00810" E to 86°16'18.92575"E
6.	Stone	Prop. - Sri Amit Kumar Mandal , S/O - Sri Sudhan Chandra Mandal	VILLAGE - Asanbani , P.O - Vitiya , PS - Govindpur , Dist. - Dhanbad	Letter No - 177/MO/D hanbad , Date - 09/02/2023	Mauza - Tetuliya , Thana No - 188 , Khata no - 80 ,& 79 Plot No - 2884 , 2891 , 2892 , 2893 , & 2886	NA	Non- Captive	23°41'45.60990"N to 23°41'41.67762"N & 86°36'49.06152"E to 86°36'41.73404"E

District survey Report for Minor Minerals other than sand (Stone)

					Area - 3.04 Acres	NA	Non-Captive	23°41'53.87251"N to 23°41'47.57017"N & 86°36'56.75450"E to 86°36'50.19908"E
7.	Stone	Prop. - Sri Amit Kumar Mandal, S/O - Sri Sudhan Chandra Mandal	VILLAGE - Asanbani, P.O - Vitiya, PS - Govindpur, Dist. - Dhanbad	Letter No - 178/MO/D hanbad, Date - 09/02/202 3	Mauza - Badalpur, Thana No - 187, Khata no - 162, 193 & 82 Plot No - 41, 42, 43, 44 & 46, Area - 2.92 Acres	NA	Non-Captive	23°41'53.87251"N to 23°41'47.57017"N & 86°36'56.75450"E to 86°36'50.19908"E
8.	Stone	M/S Sarveshwari Stone mines, Prop. - Sri Mihir kumar mandal, S/O Late Bhola nath Mandal,	VILLAGE - Machamahul, P.O - Sarkardih, P.S - Govindpur, Dist. - Dhanbad	Letter No - 1078/MO/ Dhanbad, Date - 05/07/202 3	Mauza - Aasna, Thana No - 204, Khata no - 28, 80, 265, 334, 382, 122, 176, 210, 316, 67, 371, 156, 255, 54, 184, 109, 41, 257 & 63 Plot No - 4208, 4210, 4211, 4198, 4200, 4209, 4193, 4202, 4190, 4191, 4224, 4226, 4184, 4185, 4189, 4222, 4215, 4199, 4201, 4203, 4186, 4205, 4206, 4204, 4218, 4188, 4196, 4216, 4217, 4219, 4197, 4195,	NA	Non-Captive	23°51'11.68805"N To 23°51'05.99900"N & 86°35'47.79611"E To 86°35'42.10494"E

District survey Report for Minor Minerals other than sand (Stone)

						4192, 4194, 4287 & 4265, Area - 3.96 Acres		NA	Non- Captive	23°50'33.19847"N to 23°50'26.66638"N & 86°35'54.04027"E to 86°35'48.95308"E
9.	Stone	Prop. - Sri Biswajeet kumar S/O Dharni Dhar Mandal	Village & Thana: Barwa Adda, P.O - Kalyanpur District: Dhanbad	Letter No - 1079/MO/ Dhanbad, Date - 05/07/202 3		Mauza - Bardohi, Thana No - 205, Khata no - 88, 182 Plot No - 4401(P), 4403(P), & 4402, Area - 2.36 Acres.				
10.	Stone	Prop. - Sri Suresh Marandi, S/O Late Gullu Manjhi	VILLAGE - Dhekjora, P.O - Govindpur, Dist. - Dhanbad	Letter No - 1085/MO/ Dhanbad, Date - 05/07/202 3		Mauza - Dhekjora, Thana No - 141, Old Khata no - 16, New Khata no -09, Old Plot No - 1113 & 1114 New Plot No -1454 & 1455, Area - 2.00 Acres.		NA	Non- Captive	23°53'43.09908"N To 23°53'39.46733"N & 86°30'45.17118"E to 86°30'40.89647"E
11.	Stone	M/S Kusum Stone works, Prop. - Sri Dipak Kumar Gupta, S/O Sri Ashok Kumar Gupta,	VILLAGE +PO+PS - Domchanch, Dist. - Kodarma	Letter No - 1084/MO/ Dhanbad, Date - 05/07/202		Mauza - Fatehpur , Thana No - 12 , Khata no - 56, 89, 93, 94, 116, 136, 164, 170		NA	Non- Captive	23°54' 37.452"N to 23°54' 30.1764"N & 86°8' 56.3979"E to 86°8' 48.0303"E

			3	& 174	Plot No - 2332, 2344, 2372, 2329, 2353, 2354, 2358, 2361, 2366, 2369, 2371, 2314, 2331, 2315, 2359, 2370, 2330, 2360, 2313, & 2312, Area - 7.00 Acres	NA	Non-Captive	23°53' 33.8395"N to 23°53' 28.4713"N & 86°17' 26.765"E to 86°17' 21.5796"E
12.	Stone	Maa Durga Enterprises, Partner - (i) Sri Neeraj kumar, S/O Sri Indradev Kumar baranwal, (ii) Sri Abhishek Kumar, S/O Sri Murl Ram (iii) Sri Jyoti Anand, S/O Sri Lakhan Lal Saw & (iv) Sri Prasant Kumar Tarwai, S/O Sri Prabhat Tarwai	(i) Add - Bachedih, PO+PS - Nawalsahi, Dist. - Kodarma (ii) Add. - vidyapur, PO+PS - Jhumri Teliya, Dist. - Kodarma, (iii) Add - Nawalsahi, PO+PS - Nawalsahi, Dist. - Kodarma & (iv) VILLAGE - Jhumri Teliya, PO+PS - Jhumri Teliya, Dist. - Kodarma	Letter No - 1174/MO/ Dhanbad, Date - 24/07/2023	Mauza - Lakshmanpur, Thana No - 177, Khata no - 04 & 06 Plot No - 43, 44(P), 52(P), 53(P), 54(P) Area - 3.58 Acres	NA	Non-Captive	23°44' 34.9449"N to 23°44' 43.2247"N & 86°32' 51.1446"E to
13.	Stone	M/S Captain Anand Mines and Minerals, Prop. - Sri Captain	VILLAGE +PO+PS - Jhumri Teliya,	Letter No - 1196/MO/ Dhanbad,	Mauza - Chaldhowa, Thana No - 23,	NA	Non-Captive	

District survey Report for Minor Minerals other than sand (Stone)

	Anand, S/O Late Banwari Lal	Dist. - Kodarma	Date - 28/07/2023	Khata no - 196 & 08 Plot No - 4030, 4062(P), 4056(P), 4070, 4071, 4072, 4069 & 4029(P) Area - 6.50 Acres			86°32' 59.7444"E
14. Stone	M/S Ram Stone Mining, Prop. - Sri Ashish kumar verma, S/O - Narayan Mahto,	VILLAGE - Baghra, PO - Motileda, PS - Bengabad, Dist. - Giridih	Letter No - 1176/MO/ Dhanbad, Date - 24/07/2023	Mauza - Ramakunda , Thana No - 54 , Khata no - 54, 419, 450, 102 Plot No - 832, 833, 834, , 835(P), & 827(P) Area - 3.84 Acres	NA	Non- Captive	23°52'01.04826"N to 23°51'55.99566"N & 86°12'23.86094"E to 86°12'18.25668"E
15. Stone	M/S Ganesh Enterprises, Partner - Pranab Kumar ghoshal And Others, S/O - Late Mritunjay Ghoshal	Add.- R-11-231, Bidhan Nagar, ABL Township, P.S.- New Township, Distt- Pachim Bardhaman, PIN- 713206	Letter No - 550/MO/D hanbad , Date - 10/03/2023	Mauza - Matari Khata no - 145 Plot No - 2434, 2435, 2711, , 2431 & 2710(P), Area - 5.09 Acres	NA	Non- Captive	23°50'28.87357"N to 23°50'21.74320"N & 86°15'20.64510"E to 86°15'13.37868"E
16. Stone	Maa Ambey Mining and Mineral , Partner - (i) Sangita kumari Agarwal, W/O Sri Rahul Kumar , (ii) Sri Niteshwar Sahi , S/O	Office Add.- Aravali Inclave Pandra Road, Near V Mart, PO-	Letter No - 1178/MO/ Dhanbad , Date -	Mauza - Gendanawadih Thana No -132,	NA	Non- Captive	23°52'06.47681"N to 23°51'58.18198"N & 86°13'39.56066"E to 86°13'32.26944"E

District survey Report for Minor Minerals other than sand (Stone)

		Mangal singh, (iii) Brahamanand Dubey, S/O Pramod Kumar Dubey,	Hehal, Dist.- Ranchi, Jharkhand- 834005.	25/07/2023	Khata no - 14, 16, 74, 38, 55, 53, 67, 77, 80, 100, 111, 144, 154, 166, 170 & 180, Plot No - 3107(P), 3066, 3069, 3070, 3128, 3075(P), 3103, 3076, 3078, 3071(P), 3073(P), 3088(P), 3077, 3095, 3102, 3096, 3074(P), 3091, 3092, 3093, 3094, 3089, 3090, 3068, 3072(P), 3079, Area - 7.20 Acres	NA	Non-Captive	23°54'47.67066"N to 23°54'41.81717"N & 86°30'17.74631"E to 86°30'11.31059"E
17.	Stone	M/S Ganapati Stone Works, Partner - (i) Sri Durga Hembram S/O Sri Pagal Hembram Village: Badalpur, P.O. Maharajganj Thana: Tundi, District: Dhanbad (ii) Sri Amit Kumart S/O Sri Krishna Prasad Village: Jorapathak Bera P.O. Dhansar, Thana: Dhansar District: Dhanbad	(i) Village: Badalpur, P.O. Maharajganj Thana: Tundi, District: Dhanbad (ii) Village: Jorapathak Bera P.O. Dhansar, Thana: Dhansar District: Dhanbad	Letter No - 1298/MO/ Dhanbad, Date - 10/08/2023	Mauza - Behra Thana No - 184, Khata no - 46(Old), Plot No(Old) - 166, 171, 172, 173, 175, 176, 169, 161, 162, 163 & 177, Khata no - 190(New) Plot No(New) - 309, 310, 311, 308, 342, & 306(P),			

					Area - 4.10 Acres				
18.	Stone	M/S Tej Narayan Singh, Prop. - Sri Tej Narayan Singh S/O Late Mukhlal Singh	14A, Keshka, Dhanbad, Govindpur, Dhanbad- 828109	Letter No- Kha.Ni(Nila m)- 76/2022/2 076	Mauza - Keshka Thana No - 149 Plot No - 21(Old), 301(New) Khata no - 42(Old), 185(New) Area - 2.80 Acres	NA	Non- Captive	23° 54' 21.02" N to 23° 54' 16.67" N & 86° 25' 07.44" E to 86° 24' 59.95" E	
19.	Stone	Prop. - Sri Balram kumar Agarwal, S/O Sri Sambhunath Agarwal	Address -Near Police Station G.T road , PO+PS - Govindpur , District - Dhanbad	Letter No - 1112/MO/ Dhanbad , Date - 26/07/202 4	Mauza - Kanahaidih Khata No - 195 Plot No - 1780,1781,1782, 1783, 1785, 1791 & 1792 Area -5.28 Acres	NA	Non- Captive	23°53'55.23" to 23°53'48.82" & 86°30'40.46" to 86°30'33.97"	
20.	Stone	M/S Jai Baba Basukinath Stone Mines, Partners - (i) Sri Ashish Rana S/O Sri Badri Saw (ii) Sri Rajan Kumar S/O Late Avinash Prasad	(i) Village - Mirzapur, PO + PS- Nawada, District - Nawada (ii) Village - Jumri Teliya, PO - Jumri Teliya , PS - Teliya , District -	Letter No - 1114/MO/ Dhanbad , Date - 26/07/202 4	Mauza - Gendhawadih Khata No - 33,97,144,148,71 Plot No - 3131, 3132(P), 3133, 3041, 3042, 3043, 3044, 3045, 3055, 3056, 3057, 3058, 3059, 3060,3061,3062,	NA	Non- Captive	23°51' 55.8422"N to 23°52' 0.1194"N & 86°13' 28.846"E to 86°13' 38.7097"E	

District survey Report for Minor Minerals other than sand (Stone)

		Kodarma	Letter No - 1113/MO/ Dhanbad, Date - 26/07/202 4	3063, 3064 Area -4.25 Acres Mauza -Asana Khata No - 183, 238, 305, 99, 193, 387, 303, 185, 60, 24, 257, 78, 87 Plot No -3830, 3839, 3819, 3823, 3824, 3322, 3835, 3834, 3836, 3831, 3841, 3815, 3816, 3838, 3825, 3812, 3837, 3826, 3840 & 3842 Area -4.82 Acres	NA	Non- Captive	23°51'07.73606" N to 23°51'16.50483" N & 86°35'31.18469" E to 86°35'37.62392" E
21.	Stone	Shree Enterprises, Partner - (i) Ravi Ranjan Kumar S/O Arvind Prasad singh, (ii) Ravi Ranjan Kumar S/O Ramadhir singh	(i)Village & Post: Teldiha, Thana: Madanpur, District: Aurangabad Bihar (ii)Village: Khatangi Kothi, Bhusanda, Post: Nauranga District: Gaya, Bihar				
22.	Stone	Prop. - Sri Asit Kumar Mandal S/O Sri Sudhan Chandra Mandal	Village.- Asanbani, PO- Vitya, PS- Govindpur, Dhan bad	Letter No - 1131/MO/ Dhanbad, Date - 31/07/202 4	Mauza - Tentulia Mauza No - 188 Khata No - 148, 104, 84, 46, 105 Plot no.-270, 107, 242, 184, 188, 244, 100, 106, 249, 61, 192, 191, 261, 108, 95, 105, 190, 256, 257, 253, 250, 194, 254, 195, 252, 251,	Non- Captive	23°42'48.51"N to 23°42'41.80"N & 86°36'51.03" E to 86°36'44.92" E

District survey Report for Minor Minerals other than sand (Stone)

23.	Stone	M/s Deepak Enterprises, Partner - (i) Sri Dipak Kumar Mahato S/O Uma Shankar Mahato. (ii) Abhiroop Shourya S/O Vijay Kumar Mehta	(i) Village - Aadarsh Nagar, Telipada, Hirapur, Dhanbad (ii) At: Domchanch, Dhab Road, Phulwari P.O.: Domchanch Bazar, Thana & District: Koderma	Letter No - 1133/MO/ Dhanbad, Date - 31/07/2024	243, 262, 196, 258, 241, 260, 193, 189, 255, 98, 187, 103, 99, 259, 272, 271, & 104. Area - 6.64 Acres Mauza - Nichtipur Khata No - 120, 08, 06, 04 Plot no. - 328, 415, 414, 417, 329, 418, 419, 420, 700, 702, 703, 704, 705, 706, Area- 2.70 Acre	NA	Non- Captive	23°53'14.87"N to 23°53'07.13"N & 86°30'46.16"E to 86°30'37.06"E
24.	Stone	Parner - (i) Md. Moinuddin Ansari, S/O Late Md. Hussain Ansari (ii) Md. Mokim Ansari S/O Md. Mustak Ahmed	Village+PO- Jangalpur, PS- Govindpur, District - Dhanbad	Letter No - 1130/MO/ Dhanbad, Date - 31/07/2024	Mauza - Jangalpur Khata No - 204, 325, 79, 374, 441, 2 12, 631, 02, 687, 130 Plot No - 123, 124, 126, 127, 128, 129, 113, 139, 141, 140, 137, 143, 138, 101, 111, 102, 100(P), 116, 108, 109, 112, 117, 103, 114, 115(P)	NA	Non- Captive	23°50'04.27391"N to 23°50'08.58372"N & 86°34'11.22330"E to 86°34'21.94432"E

District survey Report for Minor Minerals other than sand (Stone)

25.	Stone	M/S Mahakal Stone Mines , Prop. - Anand Rajesh S/O Captain Anand	Village+PO+PS - Jhumri Teliya , District - Kodarma	Letter No - 1244/MO/ Dhanbad , Date - 12/08/202 4	Area -3.70 Acres Mauza - Gendhawadih Khata No -106 Plot No - 3125, 3126, 3127, 3177(P), 3179, 3180, 3181, 3182, Area -4.00 Acres	NA	Non- Captive	23°51' 58.4938"N to 23°52' 3.3558"N & 86°13' 25.3233"E to 86°13' 33.1188"E
26.	Stone	M/s Bhagwati Shree Mines, Partner - (i)Sri Binay Kumar Mandal S/O Sri Dharani Dhar Mandal (ii)Sri Vivek Kumar S/O Sri Jagdish Singh	(i)Village - Barwadda, P.O - Kalyanpur, Dhanbad (ii)Village - Kusum Vihar, P.O-Bocl Township Koyla Nagar , P.S- Saraidhela, Dhanbad	Letter No - 1157/MO/ Dhanbad , Date - 01/08/202 4	Mauza - Mohlidi Mauza No - 274 Plot no.-1709, 1710, 1719, 1720, 1721, 1722, 1725, 1727, 1734, 1724(P), 1735, 1736, 1737, 1718, 1702, 1693 Area - 4.96 Acres	NA	Non- Captive	23°55'59.48"N To 23°55'54.21" N & 86°37'18.98"E To 86°37'11.99"E
27.	Stone	M/S VAISHNAVI MINES, Partner - (j)Biswajeet Kumar S/O Dharnidhar Mandal (ij)Vivek Kumar S/O Jagdish Singh	(i) Village - Barwadda, PO - kalyanpur, PS - Barwadda, District - Dhanbad	Letter No - 1156/MO/ Dhanbad , Date - 01/08/202 4	Mauza - Dumarjora Plot No - 795(P). 796(P). 848(P). Area -7.39 Acres	NA	Non- Captive	23°53'31.77" To 23°53'24.61" & 86°40'45.23" To 86°40'36.81"

District survey Report for Minor Minerals other than sand (Stone)

					(ii) Ram Mandir Road , Kusum Vihar , Koylanagar , Dhanbad					
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District survey Report for Minor Minerals other than sand (Stone)

Chapter - 14 Total Mineral Reserve available in the District

On the Basis of Approved Mining Plan.

Particulars	Total Available Resource (Tonne)
Running Mines	37055283
LOI Holders	3775707
Total	40830990

Note - This will be update at the time of preparation of mining plan for each proposed block or upcoming Stone block.

Chapter - 15 - Quality /Grade of Mineral available in the District

A petrological study of some location in the district have been studied and found that the rocks present in the district are composed of four different types of rocks. A group of hard crystalline rocks Precambrian age forms the basement and is the oldest formation of the district, over which Talchir and Damuda group of rocks are deposited in a slowly sinking faulted trough. The superficial alluvial deposits are of quaternary age. The igneous intrusive are of cretaceous Eocene and are encountered at few places in the district.

The Precambrians are the oldest formation of the region and form the basement for the overlying Gondwanas. These primarily comprise of Quartzite, mica-schist, granite-gneiss, migmatite, amphibolite and metadolerite. Apart from these common rocks, calc-gneiss and augen-gneiss are also present in the region. Granite gneiss is the most common rock found in the district. It is a light colored banded rock and consists of holocrystalline mineral assemblages of quartz and feldspar with accessory minerals such as biotite and hornblende. Stone is innocuous and suitable for road construction and building construction. The granite gneiss at some locations is black in appearance, fine to medium grained, massive hard and compact.

The rocks of the Gondwana succession rest over the Precambrian basement. Lower Gondwana rocks are mostly developed in Dhanbad and occupy the coal seams of Damodar valley. The Jharia coalfield has numerous igneous intrusive rocks namely dolerite, norite and mica-lamprophyres.

Narrow strip of older alluvial formation occur in different parts of the district. The alluvials are comprised of fine to medium grained sand, clay and silt with occasional gravel and calcareous nodules. The newer alluvium occupies the low lying areas and is restricted to the plains along the course of the rivers. The soils found in the region have been derived from weathering of sandstone, quartzite and shale. They are reddish-yellow and yellowish grey in color and are slightly acidic in nature.

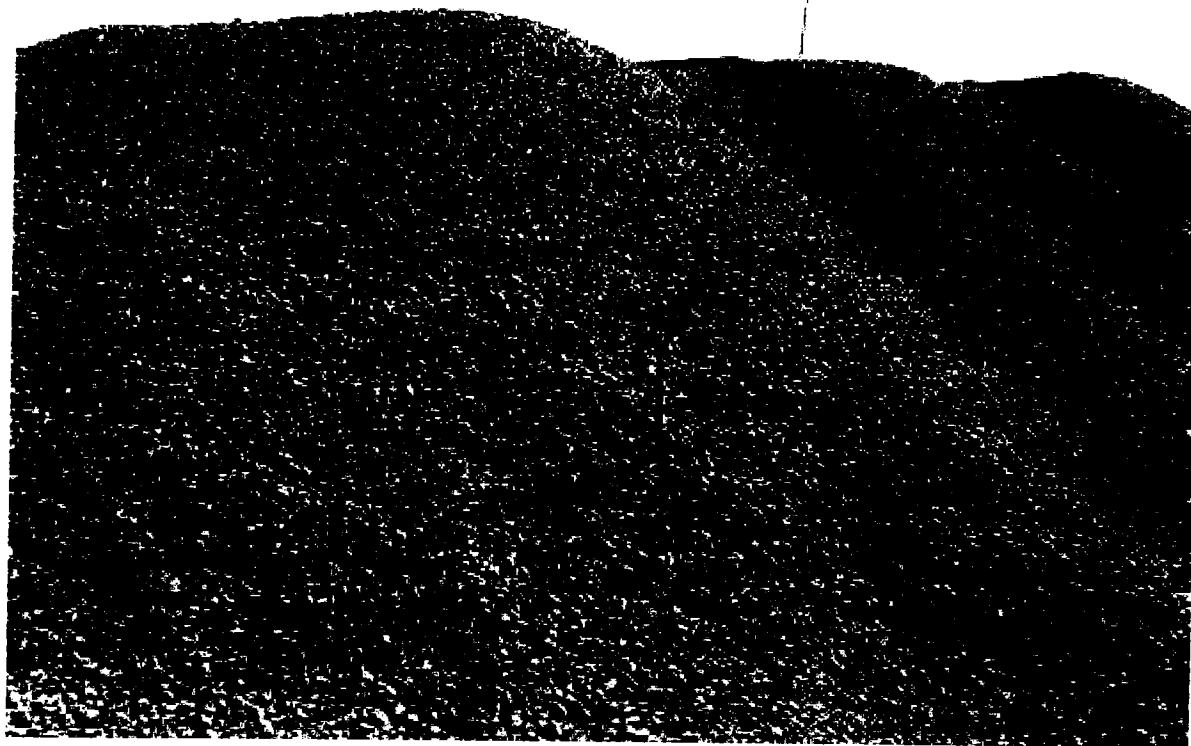
Mineral	Quality / Grade
Sand	Medium Size Sand
Stone	Granite/Gneiss Rock , Medium Quality Stone
Soil	Silty Clay
Coal	Bituminous , Coaking Coal
quartz	Milky quartz

Chapter – 16 Use of Mineral

Stones form one of the most important building materials in civil engineering. The main uses of stone as a building material are:

- a) As a principal material for foundation of civil engineering works, and for the construction of walls, arches, abutments and dams.
- b) In stone masonry in places where it is naturally available.
- c) As coarse aggregate in cement concrete (crushed form of rock).

Projected growth in infrastructure sector in the district will need essential inputs. One of such critical input is availability of stone chips of required size & quality. For this, it is essential that stone bearing areas, complying to conditions for environmentally safe mining are identified and included in the DSR.



District survey Report for Minor Minerals other than sand (Stone)

Chapter – 17 Demand and Supply of the Mineral in the last three years

Demand for the stone and brick was fulfilled by the operational mines in the district.

Table 18: LAST THREE YEARS PRODUCTION

(Provisional)

Minor Mineral	2021-2022	2022-2023	2023-2024
Stone	17852845 CFT	20999048.52 CFT	18687367.5 CFT

Source: District Mining Office, Dhanbad

Demand Forecast for Stone

Major consumes of stone chips are road projects such as National Highway, State Highway, Express ways, Pradhan Mantri Gram Sadak Yojna, Pradhan Mantri Awas Yojna and other infrastructure projects.

All these infrastructural projects of public importance would need stone chips for successful completion.

Estimated demand of stone in future may be 4 to 5 times of the current average demand.

Chapter – 18 Mining leases marked on the Map of the District



Figure 13 LOI Holders in the District



Figure 14 Running & lapsed stone leases in the District

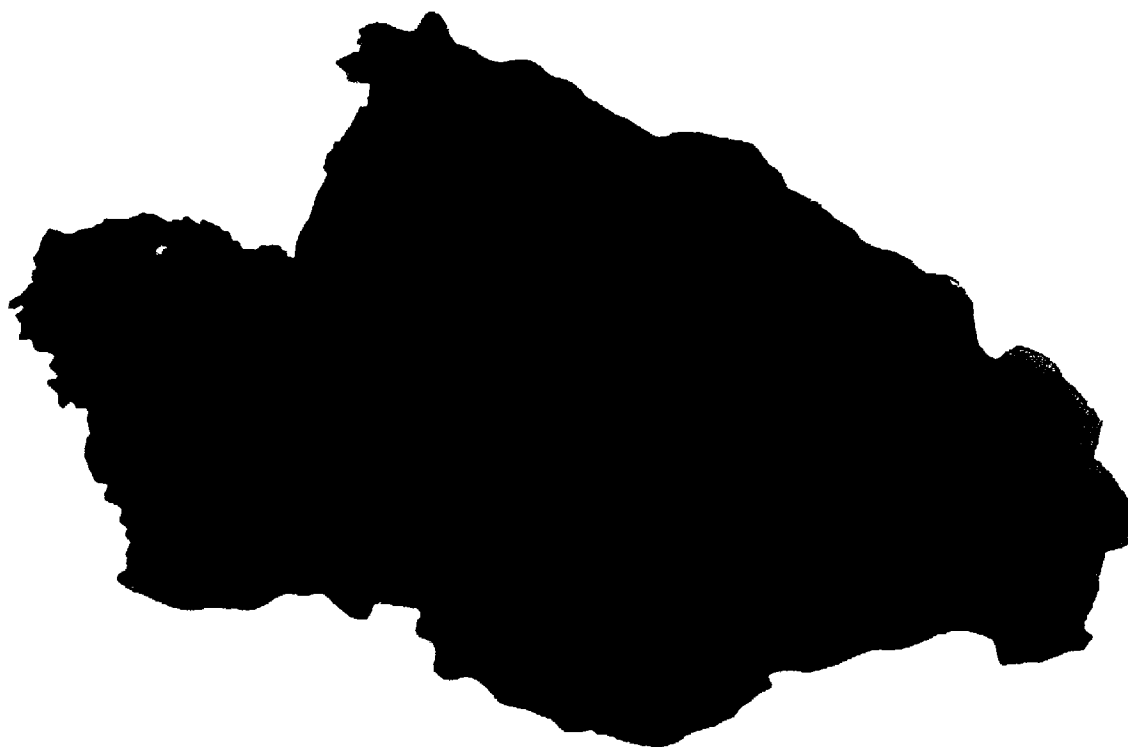


Figure 15 **Proposed stone blocks in the district**

Chapter – 19 Details of the area of where there is a cluster of mining leases viz. number of mining leases, location (latitude and longitude):

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

Chapter – 20 Details of Eco-Sensitive Area, if any, in the District:

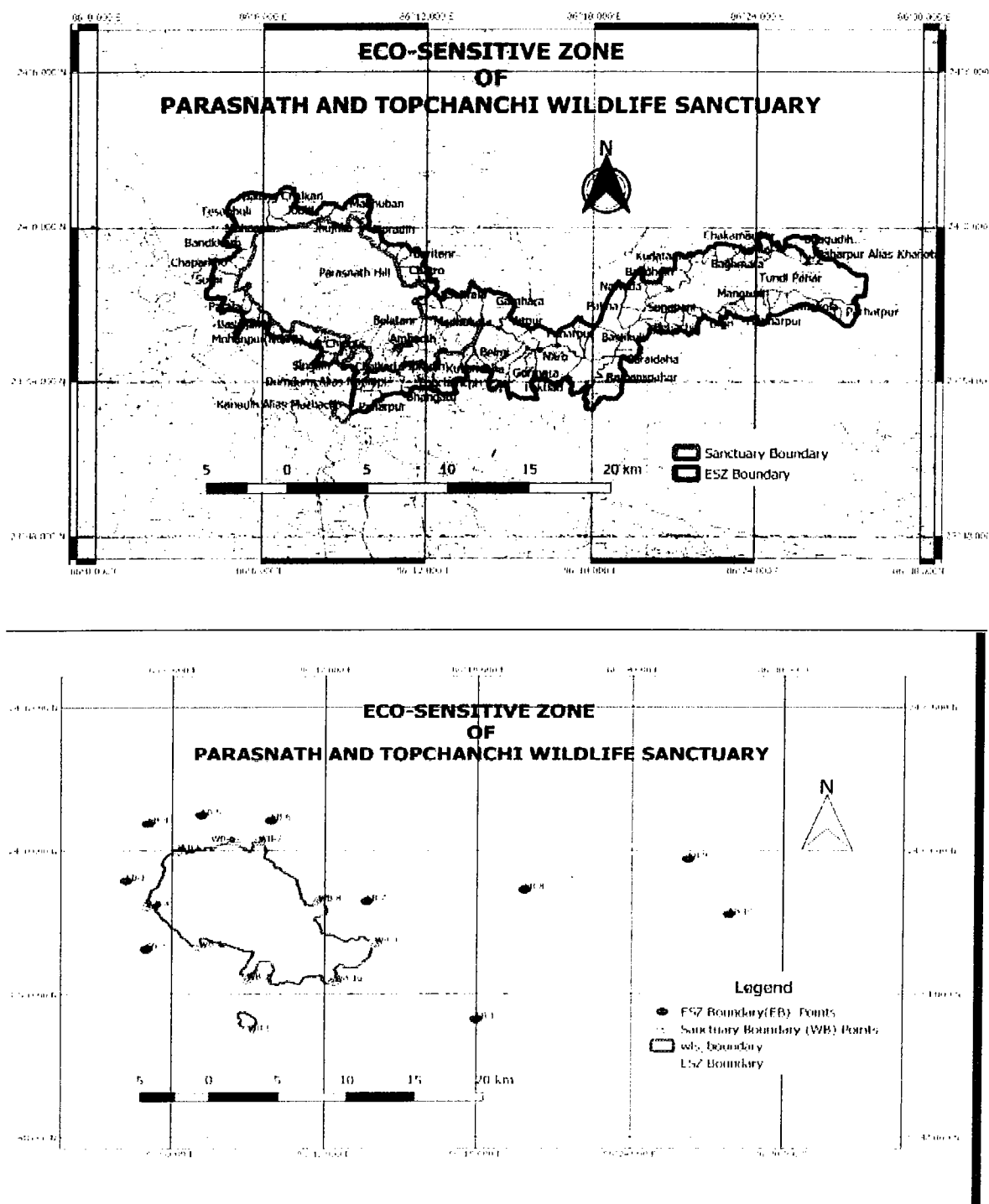


Figure 16 - Eco Sensitive zone of Topchanchi Area.(Source: Gazzete of India dated 5 August 2019)

District survey Report for Minor Minerals other than sand (Stone)

Annexure-III

TABLE-A

GPS Co-ordinates of 10 Important Points on Parasnath Topchanchi Wildlife Sanctuary Boundary		
Point	Latitude (N)	Longitude (E)
WB-1	23.87385	86.1500051
WB-2	23.909922	86.148961
WB-3	23.9323711	86.1179139
WB-4	23.9605356	86.083427
WB-5	23.9996501	86.1040048
WB-6	24.0059353	86.1402496
WB-7	24.0060309	86.1566321
WB-8	23.9644326	86.1956792
WB-9	23.9350422	86.23331
WB-10	23.908566	86.2064508

(Source: Gazzete of India dated 5 August 2019)

District survey Report for Minor Minerals other than sand (Stone)

Table-B

GPS Co-ordinates of 10 Important Points on Parasnath Topchanchi Wildlife Sanctuary's Eco-sensitive Zone Boundary

Point	Longitude	Latitude
EB-1	86°09'43.295	23°08'11.271
EB-2	86°08'41.537	23°03'09.1879
EB-3	86°03'01.106	23°02'09.584
EB-4	86°08'48.2856	23°03'87.2329
EB-5	86°11'58.471	23°07'49.121
EB-6	86°16'18.0795	23°09'09.088
EB-7	86°17'41.19	23°06'45.1362
EB-8	86°33'07.455	23°07'37.889
EB-9	86°46'56.913	23°09'41.8916
EB-10	86°46'13.125	23°05'51.8865

Annexure-IV

DETAILS OF ENCLAVE VILLAGES OF PARASNATH AND TOPCHANCHI WILDLIFE SANCTUARY FOR IDENTIFICATION OF ECO-SENSITIVE ZONE

Sl. No.	Name of Village	Admin Block	GPS Co-ordinates		Village Code (per Census of India - 2011)
			Longitude (N)	Latitude (E)	
1	2	3	4	5	6
1	Belatani	Topchanchi	N 23°03'54	E 86°19'09	361316
2	Kathnabad	Topchanchi	N 23°03'5	E 86°20'05	361317
3	Dhanurana	Topchanchi	N 23°03'53	E 86°16'17	361304
4	Dhanurapuri	Topchanchi	N 23°02'23	E 86°19'20	361312
5	Astadih	Topchanchi	N 23°02'22	E 86°19'25	361320
6	Ganeshpur	Topchanchi	N 23°02'02	E 86°22'05	361322
7	Pipradhi	Topchanchi	N 23°02'07	E 86°17'34	361330
8	Bacterbas bahalera	Topchanchi	N 23°02'58	E 86°18'58	361394
9	Majhadih	Topchanchi	N 23°02'17	E 86°19'16	361349
10	Rapha	Topchanchi	N 23°02'14	E 86°18'06	361343
11	Chheva Kanadhi	Topchanchi	N 23°01'06	E 86°17'16	361344
12	Nakva	Topchanchi	N 23°01'04	E 86°14'05	361206
13	Pipradhi	Topchanchi	N 23°01'15	E 86°17'58	361345
14	Blawandera	Topchanchi	N 23°01'25	E 86°18'05	361342
15	Chalkari	Topchanchi	N 23°01'14	E 86°16'07	361341
16	Kanadhihale Markaher	Topchanchi	N 23°53'	E 86°14'59	361303
17	Parasnath	Parasnath	N 23°09'46	E 86°14'09	357854

District survey Report for Minor Minerals other than sand (Stone)

ECOSENSITIVE ZONE IDENTIFICATION AND DETAILS OF AREA AROUND PARASNATH AND TOPCHANCHI WILDLIFE SANCTUARY

Sl. No.	Name of Village	Admin Block	GPS Co-Ordinate		Village Code as per Census of India, 2011
			Longitude (N)	Latitude (E)	
1	2	3	4	5	6
1	Pandla	Dumri	86.1306625	23.00198899	352613
2	Mohampar	Dumri	86.1084571	23.00272225	352615
3	Badhinar	Dumri	86.0864985	23.0034682	352619
4	Khejwara	Dumri	86.0896441	23.08317555	352660
5	Rhara	Dumri	86.0859928	23.07738755	352687
6	Suthi	Dumri	86.0754094	23.0679330	352688
7	Borua	Dumri	86.0866874	23.0488477	352713
8	Jebba	Dumri	86.1274663	23.0066146	352644
9	Epamagan	Dumri	86.0907023	23.0506843	352724
10	Dabang Chalkar	Dumri	86.1113654	23.0151243	352644
11	Tesaphuli	Dumri	86.0925823	23.0130679	352646
12	Hilwari	Dumri	86.1075471	23.0339358	352744
13	Basajani	Dumri	86.1011671	23.0408215	352743
14	Mohampar	Dumri	86.1248642	23.0310069	352750
15	Chagachho	Dumri	86.0782263	23.0742955	352682
16	Kolnamar	Pargana	86.1986501	23.0608357	352877
17	Balki Parnar	Pargana	86.2019840	23.0671473	352876
18	Sohara	Pargana	86.2154090	23.0520106	352924
19	Pipradhi	Pargana	86.1673875	23.0041043	352869
20	Telamrigha	Pargana	86.1881544	23.0075676	352853
21	Charas	Pargana	86.1894058	23.0686496	352874
22	Badgum	Pargana	86.2277558	23.0488499	352925
23	Keswaram	Pargana	86.1749183	23.0871341	352870
24	Gundara	Pargana	86.2419591	23.0475831	352926
25	Mama	Pargana	86.2044172	23.0521315	352922
26	Pipradhi	Pargana	86.1966985	23.0571975	352943
27	Parnapur	Pargana	86.2864785	23.0665648	352954
28	Jupa	Pargana	86.2873583	23.0484444	352947
29	Banchari	Pargana	86.2706996	23.0758329	352953
30	Madhulbari	Pargana	86.1874945	23.0108001	352866
31	Jamagan	Pargana	86.1352443	23.0108008	352853
32	Barduar	Pargana	86.1921626	23.0758420	352873
33	Madhulbari	Pargana	86.2096677	23.0137240	352923
34	Birgaon	Pargana	86.2948428	23.0323903	352956
35	Morapuri	Pargana	86.1626789	23.0074691	352866
36	Kamra	Pargana	86.2615256	23.0266693	352928
37	Belauria	Pargana	86.1801469	23.0849587	352877
38	Baradibkharid	Pargana	86.1879766	23.0874019	352877
39	Dandi Bhargava	Topchanchi	86.1646840	23.8984496	367540
40	Kandla	Topchanchi	86.2444042	23.9080944	367584
41	Bilauri	Topchanchi	86.2417847	23.9249672	367573
42	Nara	Topchanchi	86.257524	23.9116296	367590

District survey Report for Minor Minerals other than sand (Stone)

43	Paharpur	Topschanchi	86.1629129	23.8882556	361309
44	Khanwadih	Topschanchi	86.2248938	23.9168952	361324
45	Gornara	Topschanchi	86.2555961	23.9099879	361385
46	Lokbad	Topschanchi	86.2593669	23.9004363	361387
47	Kusumdiha	Topschanchi	86.2291786	23.9126641	361325
48	Kalyanpur	Topschanchi	86.1334895	23.9250080	361292
49	Chintapur	Topschanchi	86.2336269	23.9064693	361329
50	Dumungu	Topschanchi	86.2967172	23.9055746	361391
51	Pabapur	Topschanchi	86.1801562	23.9004219	361297
52	Topschanchi	Topschanchi	86.1950819	23.9034965	361402
53	Churpa	Topschanchi	86.1602107	23.9204119	361295
54	Singdih	Topschanchi	86.1586793	23.9139784	361291
55	Dumandai Alias Narkepi	Topschanchi	86.1763656	23.9001723	361311
56	Karnatani	Topschanchi	86.1362885	23.9286313	361288
57	Gargara	Topschanchi	86.2606481	23.9067836	361386
58	Bhuanathi	Topschanchi	86.1881213	23.8944278	361310
59	Daropatia	Tundi	86.433248	23.9494601	361127
60	Parbatpur	Tundi	86.4546382	23.9453302	361156
61	Salpalar	Tundi	86.4430794	23.9487191	361154
62	Chakranagar	Tundi	86.4059048	23.9001848	361042
63	Pabra	Tundi	86.4396011	23.9141949	361155
64	Bhagadi	Tundi	86.4288858	23.9879469	361080
65	Naco	Tundi	86.3804536	23.9836998	361072
66	Bary Nagpur	Tundi	86.4215213	23.9837204	361077
67	Baghriara	Tundi	86.3884389	23.9805131	361073
68	Chivota Nagpur	Tundi	86.4290364	23.9795264	361078
69	Kudatani	Tundi	86.3547079	23.9708113	361086
70	Parashani	Tundi	86.3580892	23.9507609	361061
71	Basikubi	Tundi	86.4015338	23.9241822	361058
72	Pabra	Tundi	86.4330816	23.9126136	361057
73	Paharpur Alias Karnatani	Tundi	86.1366856	23.9794279	361081
74	Jankol	Tundi	86.3988863	23.9808334	361074
75	Chumkadaha	Tundi	86.4101743	23.9847758	361126
76	Nawadi	Tundi	86.4265395	23.9872113	361080
77	Bambadih	Tundi	86.3293991	23.9666147	361065
78	Gnakota	Tundi	86.4272871	23.9829569	361128
79	Fendi Pabar	Tundi	86.4016351	23.9639690	361123
80	Shulgari	Tundi	86.3632133	23.9803941	361069
81	Karkand	Tundi	86.4104651	23.9858572	361075
82	Pukharia	Tundi	86.3710029	23.9835867	361071
83	Pabra	Tundi	86.4221970	23.9118667	361059
84	Mangrudi	Tundi	86.4057292	23.9853860	361125
85	Bengtara	Tundi	86.4008967	23.9492309	361124
86	Pipradish	Tundi	86.3464255	23.9602582	361062
87	Bantore	Gobindpur	86.3891573	23.9075938	361627
88	Hathansia	Gobindpur	86.3944179	23.9157693	361635
89	Ghorabandi	Gobindpur	86.3221120	23.9243358	361619
90	Pabra	Gobindpur	86.4289053	23.9352435	361618

District survey Report for Minor Minerals other than sand (Stone)

91	Madhapur	Gobindpur	86 3834814	23 9466010	363633
92	Pargho	Gobindpur	86 3806239	23 9414715	363626
93	Sonapat	Gobindpur	86 3629268	23 9449363	363628
94	Helaicha	Gobindpur	86 3709752	23 9393552	363615
95	Diga	Gobindpur	86 3735645	23 9421113	363631
96	Sarandah	Gobindpur	86 3213605	23 9178108	363620
97	Chakama	Gobindpur	86 3360089	23 9383484	363610
98	Rajmadi	Gobindpur	86 3911508	23 9498047	363634
99	Rajbanspahi	Hajibara	86 3085250	23 8084655	363462

(Source: Gazette of India dated 5 August 2019)

Chapter – 21 Impact on the Environment (Air, Water, Noise, Soil, Flora & Fauna, land use, agriculture, forest etc.) due to mining activity:

21.1 General

Project activities relating to stone mining projects result into impact on various environmental attributes including land, soil, ambient air, water quality, noise, bio-environment including flora & fauna & socio-economic profile in the area. For stone mining project to be sustainable, on long term basis, these impacts need to be assessed & be mitigated. Extent of impact on environmental attributes in a project would depend on base line environmental quality profile & planned capacity of the mine, method of mining etc. This being so, project environmental impact specific to every project needs to be assessed for their proper mitigation. In this section of the report effort has been made to identify environmental impacts due to project related activities & mitigation measures to minimise their impact.

21.2 Activities Likely to affect Ambient Air Quality

21.2.1 Site Preparation

In most of cases first activity is site preparation which involves clearing the site of vegetation including shrubs, trees etc, grading & levelling the site. These activities generate dust & noxious gases on account of use of diesel for operating diesel generated earth moving equipments.

21.2.2 Removal of Overburden

In case there is overburden in form of soil or weathered stone, over the stone deposit, it needs to be removed before mining of stone activity are initiated. In such cases where overburden is soft material, it would be removed by grader without blasting. But if O.B is hard, it would require blasting with use of explosives. Removal of O.B & its transportation & storage would generate dust & noxious gases.

21.2.3 Removal & Storage of Top Soil

Area within the lease over which top soil occurs will be identified. Before the lease area is graded & levelled top soil would be removed and stored for future use. They would be properly stored. This activity of removal, transportation & storage of top soil would generate dust & noxious gases.

(A) Stone Mining

(B) Drilling of blast Holes

Mining of stone would require blasting using explosive. For this purpose blast holes need to be drilled using drill machine. Drilling operation would generate dust & noxious gases if drill is diesel operated.

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(C) Blasting

Blasting operation would generate dust & noxious gases.

Handling of Blasted Material

Blasted material would need to be loaded into tipper & its transportation to crusher for proper sizing.

Unreclaimed Over burden dump

Storage of O.B external dump, till it is reclaimed, constitutes a source for dust generation.

21.3 Anticipated Environment Impact on Air Environment

Proposed mining of stone by opencast method, their handling i.e., crushing, screening & transportation finished product will result into impact on environmental attributes in the area. Anticipated impact would be on land, ambient air, water, noise level & soil.

However, assessment of these anticipated impact at this stage is constrained by the fact that capacity of individual mine in identified lease is not available.

In this scenario an attempt has been made to identify sources of environment pollution & their impact.

Sources of the air pollution & their emission factor are tabulated below: -

Emission factor have been taken from AP42 & IPA;

Sl. No.	Activity	Emission Factor
1	Drilling	0.11 Kg/Hole
2	Blasting	0.52 Kg/Blast
3	Loading	$1.4 \times 10^{-0.4}$ Kg/t
4	Transportation	0.4 kg/VKT
5	Crushing	0.056 Kg/t

Impact of above activities on ambient air quality will mostly be confined to release of particulate matter. Release of SO₂ due to use of diesel for haulage vehicles & mining equipment's are likely to below prescribed limit generation of SO₂ may be estimated by following expression;

$$\text{Emission rate of SO}_2 \text{ (gm / day)} = Q \times C / 100 \times M_w / E_w$$

Where;

Q = Fuel use per hour (Litre)

C = Concentration of Pollutant Fuel percent (%)

M_w = Molecular weight of emitted pollutant (Kg/Kg-mol)

E_w = Elemental weight of emitted pollutant in fuel (Kg/Kg-mol)

District survey Report for Minor Minerals other than sand (Stone)

comparing data relating to prevailing level of PM₁₀ PM_{2.5} SO₂ & Nox of the air pollution with level prescribed by MOEF & CC, it appears that atmosphere has sufficient supporting capacity in term of PM₁₀, PM_{2.5}, SO₂ & NO_x. As such, the new mines are opened with air pollution mitigation measured recommended level of air pollution are likely to remain wither prescribed level.

21.4 Impact on Water Environment

In opencast mines there is no generation of effluent.

Divines are not likely to intersect ground water table. As such there is no seepage of groundwater into query.

In most cases generation of overburden will be minimal.

However, sources of generation of polluted water will include;

- a) water collected in quarry during monsoon will be pumped out to facilitate mining this water make contain suspended solid. Discharge of pump out water to natural water body will degrade quality of water on choke the natural water courses.
- b) run-off from external over burden dump. Surface run-off generated from external dumps are likely to contain high amount of suspended solid.

21.5 Impact on Noise Environment

Operation of mining equipment and haulage of stone by road are major source for noise generation.

21.6 Anticipated Impact on Bio-Diversity

Potential sites for mining project have been identified on keeping in consideration guideline prescribed by State Environment Impact Assessment Authority, Jharkhand (JSEIAA) & Jharkhand State Pollution Control Board (JSPCB).

All of them have been located outside forest land and also, they are located 250m away from notified forest. If any mining project will propose inside forest, then it will be regulated through Forest Conservation Act.

Potential sites have been identified away from river & water body.

Compliance to above criteria will minimise impact on flora & Fauna in the area. However, in some cases, there might be some tree or shrubs in identified project area. Such trees falling in the lease area may required to be cut. Efforts will be made to minimize such tree cutting. Required permission will be obtained from concerned DFO.

21.7 Impact on Agriculture Land

Care has been taken to identify potential site for mining projects avoiding forest land and agriculture land particularly prime agriculture land. Such anticipated impact on agricultural land will be minimal.

21.7 Impact on Landuse

Project activities including quarry, external overburden dumping, stockyard, development of haul road are likely to alter land use pattern in the lease area. As stated, earlier care has been taken in identification of potential mining lease area to avoid forest land, prime agriculture land, etc. In view of this, anticipated impact on land environment would not be substantial.

Table 19 Summarized Block-wise Ambient Air Quality Data of the District

Present environment scenario prevailing in the district has been drawn on basis of environmental monitoring data submitted to JSPCB by mine owners in the district. They are enclosed at Annexure – I.

Present Ambient Air Quality Scenario

Present ambient air quality status in the district has been assessed based on measurement of ambient air quality through Air Sampling at each block of the district. The parameters included in the testing programme covers PM₁₀, PM_{2.5}, NO_x & SO₂.

A table given below gives the test result in respect of ambient air quality;

It may be seen from above table the level of air pollutants in the atmosphere are below the level prescribed by CPCB / MoEF & CC.

Based on the above data air quality index have been calculated by the prescribed method of CPCB are enclosed in Annexure – I.

This means that the atmosphere has assimilative / supporting capacity to absorbed air pollutants generated by proposed projects in the study area without exceeding the prescribed limits.

However, at the time of the appraisal of the project for grant of EC the effect of project activities on ambient air quality need to be assessed.

Chapter – 22 Remedial Measures to mitigate the impact of mining on the Environment:

22.1 Mitigation Measures on Air Environment

- It is suggested to adopt a wet drilling system this will reduce dust generation during drilling process.
- 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.
- Practice controlled blasting to minimise generation of dust.
- Regular water sprinkling on haul road, loading area & unloading area to control emission of dust while transporting minerals.
- Install wet dust suppression system in crushing and screening plant.
- Raise Green Belt in safety zone.
- Avenue plantation along both sides of haul road.

Air Environment

Sl. No.	Particular	Activity	Pollutant	Impact	Mitigation Measures
1.	O.B. Removal A. If soft O.B.	Removal by using HEMM	• Dust • Noxious Gases	Rise in Level of air pollution	• Water sprinkling on area from where OB is to be removed • Proper maintenance of HEMM
2.	B. Hard Material	1. Drilling Blast holes 2. Blasting	• Dust • Noxious Gases		• Water sprinkling on area identified for Drilling, Blasting • Proper, regular maintenance of HEMM
3.	O.B. transport by Road to Dump yard	• Dust • Noxious Gases • OB Handling	• Dust • Noxious Gases		• Water sprinkling on Haul Road • Proper maintenance of transport vehicles
4. 4.1.	Mining of stone	• Drilling Blast Holes • Dust • Noxious Gases	Rise in level of particulate Matters		Water sprinkling on area identified for Drilling
4.2.	Blasting	• Blasting • Dust • Noxious Gases	Do	• Properly designed geometry of Blast holes	• Use of optimum quantity of explosives (Powder Factor) • Blasting during

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					noon time
4.3	Handling of Run of Mine stone				
4.4	Loading Blasted Material on Tippers	• Material on Tippers	Do		Water sprinkling on Blast Material
4.5	Transport of Blast Material to crusher cum screening plant		Do		• Water sprinkling on Haul Road • Water to be mixed with chemical developed by CMRI for effective dust control
5.	Sizing of ROM stone	A. CRUSHING B. SCREENING	• Dust • Noxious Gases	Rise in level of particulate Matter in Ambient Air	Provide wet type control system. This will have two components ❖ Dust Containment Enclosures • For crusher discharge area • For vibratory / rotary system ❖ Dust Suppression System - Spraying water at Key dust generation location

22.2 Mitigation Measures on Water Environment

- 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.

Water Environment

Sl. No.	Particular	Activity	Pollutant	Impact	Mitigation Measures
1.	Mining of stone	Collection of	Suspended	High level of	Store pumped out water

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	by opencast method of mining	water in Quarry due to seepage of ground water & its pumping out - Collection of rain water in Quarry - Collection of surface	solid	suspended solid in water	in Desilting pond for removal of suspended solid.
2.	Mining of stone by opencast method	Provision of wash rooms	Generation of sewage having high level of BOD & other pollutants	Discharge of sewage untreated impact quality of surface & ground water	Provision of septic tank & cess pool
3.	Mining of stone by opencast method & allied activities	Surface Run-off from lease area during rainy season	Generation of surface Run-off with high level of suspended solid & flowing to surface water source near lease area	Quality of surface deterioration of water	Network of open drain in the lease area to intercept surface Run-off & divert it to Desalting pond before discharge to outside lease area

22.3 Mitigation Measures on Noise Environment

- Mining operation should be done in day shift only.
- All machineries and transport vehicles will be properly maintained and pollution check will be done once in a year to keep the noise & Pollution emissions from machineries and vehicle under control.
- Practice controlled blasting to minimise ground vibrations.
- Green belt in safety zone minimise will reduce the noise levels.

Noise Environment

<u>Mitigation Measures for Impact due to Noise</u>	➤ Acoustic Barrier along the periphery of mining lease at critical points. ➤ 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
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22.4 Mitigation Measures on Bio-Diversity

- Mixed plantation would be raised in the safety zone with 1600 trees in per hectare. They would be native species. This will mitigate impact on bio-diversity.
- Every lease area will have a waste water management plan consisting of garland drains and desilting pond. This will prevent pollution of natural water course & impact on aqua fauna.

22.5 Mitigation Measures on Agriculture Land

- The mining activities will be restricted within the lease area only.
- Area for storage of topsoil would be identified.
- Edge of topsoil dump would be protected with brick lining.
- Grass would be raised on topsoil dump to arrest erosion and to conserve nutrients.

22.6 Mitigation Measures on Landuse

- The mining activities will be restricted within the lease area only.
- As much as possible at the end of mining operation O.B material stored in external dump will be liquidated and backfilled into quarry void.
- Quarry void should be reclaimed with water to create a water body with fencing and gates this could be used for agriculture or source of water for local people and it may facilitate in groundwater recharge.

22.7 Mitigation Measures for Flora & Fauna

Considering importance of impact of environmental impact on eco-system in the study area, a series of mitigation measures are incorporated in planning of stone mine & its operation such mitigation measures are given below;

Site Selection Criteria

- Mine site are selected considering siting criteria prescribed by 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: Currently all running mining lease and proposed are located outside from wildlife corridor. However, ensure wildlife corridors are

District survey Report for Minor Minerals other than sand (Stone)

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.

Chapter – 23 Reclamation of Mined out area (best practice already implemented in the district, requirement as per rules and regulation, proposed reclamation plan):

23.1 Importance

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

- Mined out area should be reclaimed for Eco-friendly productive use on sustainable basis they may converted to a water body. This has number of advantages which includes, improvement in ground water Recharge area. And this Water may be used for irrigation in nearby area.
- 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.

23.2 Components

For successful reclamation following points are to be considered

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

23.3 Safety measures

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

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

Chapter – 24 Risk Assessment & Disaster Management Plan

The Mining Operations is usually hazardous and destructive in nature. Some of the risk assessment relating to Mining Operations is as below:-

- Slope/ Benches failure.
- Accidents due to machineries and equipment.
- Inundation.
- Accidents due to blasting/ explosives.
- Accidents due to Fire.
- Accidents due to inadvertent entry of people and animals.

Disaster Management Plan

In order to mitigate the above Risk Assessment, the Disaster Management Plan in order to minimize accidents and control the damage, the followings are to be followed:

- Proper maintenance of benches and slope along with proper design considering the stability of the working benches or slopes.
- Proper maintenance of machinery and equipments and proper signalling methods. Proper maintenance of berms on haul roads including the proper width and gradient of haul roads.
- Proper maintenance of drainage/ sump and pumps.
- Care has to be taken on handling of explosive, misfires and proper design of blasting parameter and use of blasting accessories to minimize fly rocks, noise and vibration. Proper signalling and maintenance of blasting shelter.
- Fire extinguisher has to be kept in all the machineries and wherever a fire hazard is anticipated.
- Proper fencing of the lease boundary is to be practised in order to avoid any inadvertent entry.
- Detailed list of equipment available, its type & capacity and items reserved for emergency
- Apart from the above precautions, Emergency Response Team is to be arranged by the lessee under the supervision of Mine Manager to tackle in case of any disaster/ accident.
- Management to ameliorate the situation of panic, tension, sentiments, grievances and misgivings created by any disaster and to help the injured, survivors and family members of affected persons by providing material, finance, moral support and establishing contact with relatives of victims.
- It is also important that the lessee has to maintain the following facilities in the area:-
 - i) First Aid Room.

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- ii) Emergency alarm in mine.
- iii) Firefighting equipments and accessories with trained manpower.
- iv) Training Centre.
- v) Ambulance van.
- vi) Medical centre and rescue room.

Risk Assessment & its Preventive Measures

Particulars	Risk Assessment	Preventive Measures
Natural	Flooding of opencast working due to heavy rains ingress of water from nearby water body i.e. river, reservoir etc. Earthquake Earthquake in the area may cause damage to life & property. Land slide There might be Land slide in external dump or high wall of opencast mine	Flooding The drainage plan (Dewatering scheme) of the mine has to be prepared considering the maximum rainfall in the area corresponding to maximum quantity of water accumulated in quarry, sufficient capacity of pump need to be prodded for preventing flooding of quarry. Earthquake If the mine is in zone iii & above of impact of earthquake must be integrated with planning & design of the project. Land Slide To prevent land slide in the mine following measures need to be taken care nature of rock corresponding to ➤ Proper slope to be provided to advancing bench of the mine ➤ Proper slope (45° - 50°) to be provided for terminal slope to the quarry ➤ External dump has to be properly planned with proper side slope to prevent slope failure. ➤ External dump should be located on a stable ground with load bearing capacity to support load of external dump. ➤ External dump should be proper drainage plan to prevent building up of internal hydraulic pressure.
Mechanical	Operation of mine involves use of a number of Heavy earth moving Machines including Drills, Backhoe, Shovel, dumper etc. Operation of these equipment's may cause accident leading to loss of life or equipment's similarly material including row material, waste material &	➤ Toe wall with foot drain. ➤ Regular training to equipment operator ➤ Regular repair & maintenance of equipment

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	product are to be transported by road using dumper, tipper. Unregulated transportation may lead to road accident	
Electrical	Project operation requires operation of electrical equipment. They are operated on high voltage & use cables. Use of electrical equipment may cause fire or electrocution	➤ Electrical system needs to be designed following relevant prevailing rules as per Act. ➤ Regular maintenance and upkeep of cables, switches etc.
Fire	Operation of mine requires use of electrical power & diesel oil. Use of electrical power & oil may cause Fire	➤ Safe storage of diesel. ➤ No Smoking Zone. ➤ Maintenance of electrical wires ➤ The electrical cables with PVC sheath to prevent over heating and fire. ➤ The cables should have wire with appropriate size of core to carry required current. ➤ Provision for fire alarm and arrangement for firefighting appliances.
Blasting & Vibration	Operation of mine needs blasting using explosives. Unattended & unplanned blasting may cause accident. The planed blasting may cause ground vibration outside the lease area that may affect stability of structures located in close vicinity Ground Vibration The planed blasting may cause ground vibration outside the lease area that may affect stability of structures located in close vicinity	➤ Proper design of Blasting pattern to ensure ground vibration within limit ➤ Use of optimal quantity of explosives ➤ Hooter should be used to inform & warn workman before blasting in done.
Environment al Pollution	Mining activities may cause health risks for workmen they may be due to exposure to high level of dust or noise in work area. Project activities may generate environmental pollution that may attest	➤ All workmen to be provided with ear mutt & mask ➤ Pollution control measures to minimise environmental pollution such as raised plantation in Safety Zone, avenue plantation and dust suppression. ➤ Regular health check-up of workman as per DGMS Rules. ➤ Trucks with Pollution under control certificate

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	health of people living in vicinity of lease area	to be allowed
Road Accidents	Major Causes of road accidents are; Over Speed Non-Observance of traffic rules & traffic signs Mechanical Failure of Vehicle	Follow provision in Motor Vehicles Act, 1988 & its amendment Ministry of Road Transport has published S.O. 1522 (E) prescribing speed limits on different types of roads for different category of vehicle State Govt. are empowered to fix speed limits within their state. In addition, Section 112 of Motor Vehicles (Driving) Regulation, 2017 prohibits drivers to exceed prescribed speed limit on a road. In addition, proper sign boards to be provided near densely populated area, school, hospital, etc. & road intersections. Road rambles to be provided near school, hospital, densely populated area and road intersection.

Chapter - 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):



कार्यालय अस्तेनिक शल्य चिकित्सा सह-मुख्य चिकित्सा प्रदायिका धनबाद।
 (Joint office - Ranajit Verma Chowk, Dhanbad-826001)

सं. 17723 दि. 12/12/2019

प्रति,
 मुख्य चिकित्सा अधिकारी, धनबाद।

विषय: अस्तेनिक शल्य चिकित्सा

संदर्भ:

1. अस्तेनिक शल्य चिकित्सा सह-मुख्य चिकित्सा प्रदायिका, धनबाद।
 2. अस्तेनिक शल्य चिकित्सा सह-मुख्य चिकित्सा प्रदायिका, धनबाद।

3. अस्तेनिक शल्य चिकित्सा सह-मुख्य चिकित्सा प्रदायिका, धनबाद।

4. अस्तेनिक शल्य चिकित्सा सह-मुख्य चिकित्सा प्रदायिका, धनबाद।
 5. अस्तेनिक शल्य चिकित्सा सह-मुख्य चिकित्सा प्रदायिका, धनबाद।

Year	No. Patients of Silicosis
2014	
2015	
2016	
2017	
2018	
2019	

प्रति,
 मुख्य चिकित्सा अधिकारी, धनबाद।
 (Joint office - Ranajit Verma Chowk, Dhanbad-826001)

District survey Report for Minor Minerals other than sand (Stone)

पत्रक

पत्रांक 153 / धनबाद

जिला यन्त्रा पदाधिकारी
धनबाद।

सेवा में

जिला खनन पदाधिकारी,
धनबाद।

धनबाद, दिनांक 24/07/24

विषय : धनबाद जिला में विगत पाँच वर्षों में पाये गये यन्त्रा के मरिजा की संख्या उपलब्ध करने के सम्बन्ध में।

प्रस्ताव : आपक कार्यालय पत्रांक 965 दिनांक 08.07.2024
महाराय,

उपर्युक्त प्रसारित विषयक मांगी सूचनाओं दृष्टि। प्रतिवेदन में उपलब्ध करायी जा रही है।

Sl. No.	Year	No. of patients of Tuberculosis.
1.	2019	3518
2.	2020	2676
3.	2021	3544
4.	2022	3508
5.	2023	3639
6.	2024 (upto June 2024)	1935

विश्वरत्नमान

Signature
जिला यन्त्रा पदाधिकारी
धनबाद।
24/07/24

आपक 153 / धनबाद, दिनांक 24/07/24

प्रतिलिपि : सिविल सर्जन, धनबाद का सूचनाएं प्रेषित।

Signature
जिला यन्त्रा पदाधिकारी
धनबाद।
24/07/24

Chapter – 26 Plantation and Green Belt development in respect of leases already granted in the District :-

In respect of plantation and green belt development of already granted leases the lessee will maintained a 7.5m boundary zone of the lease area which is a part of environment protection measures and for this the proposed yearly expenditure on environment activities is as submitted by the lessees in the Pre- Feasibility Report prior to granting of Environmental Clearance. The green belt will not only on the one hand function as a foreground and background landscape feature resulting in harmonizing and amalgamating the physical structures of the mines with the surrounding environment but will also on the other hand act as a pollution sink , control erosion, make the ecosystem more stable and also make the climate more conducive. The choice of species to be planted should preferably be the local species compatible with the environmental conditions prevailing in the area.

The basic approach to green belt / plant growth in the lease area is to provide an esthetic look, reduce fugitive pollution, and monitor noise effect, etc.

Green Belt will be developed based on the following principles:

- Protect natural or semi-natural environments.
- Improve air quality within urban areas.
- Protect the unique character of rural communities that might otherwise be absorbed by expanding suburbs.
- Plants that grow fast should be preferred.
- Preference for high canopy covers plants with local varieties.
- Perennial and evergreen plants should be preferred.
- Plants having a high Air Pollution Tolerance Index (APTI) should be preferred.

Protection & Care

Arrangement for protection of plantation against grazing by animals & other anthropogenic pressure should be made. Arrangement for proper watering has to be provided. Plantation needs protection & care for at least 3 years.

Table given below show the No. of plants proposed and Actual no. of plants Exists in lease area.

Sl. No	Name of the Lessee & Address	Area for Safety zone in hectare	No. of Plants proposed @ 1600 Plants per hectare	Actual Existing Trees on Lease Area	Difference
1	G.S. Duggal And Brothers , Vill - Kusumatand PO-Baliapur,	1.113	1780	175	1605

District survey Report for Minor Minerals other than sand (Stone)

	Dhanbad , Area -2.792 Ha				
2	Kamal Kumar das Stone Mines , S/O Virbham Das , Baliapur Area – 0.81 Ha	0.10	160	65	95
3	Mannu Alam AT/PO - Jangalpur,Dhanbad Area -1.773 Ha	0.281	449	150	299
4	Mannu Alam Stone Mines AT/PO - Jangalpur,Dhanbad Area – 1.29 Ha	0.272	435	95	340
5	Israq Zia , S/O Md Kasim Ansari , Jangalpur , PO – Jangalpur , Area -3.246 Ha	0.892	1427	80	1347
6	Md Mokim Ansari S/O Mustak Ansari Add Jangalpur PS Govindpur,Dhanbad Area -0.85 Ha	0.283	453	125	328
7	Md Mubarak Hussain And Md Mahmud Ansari ,At Jangalpur , PO Jangalpur , PS govindpur,Dhanbad Area – 1.437 Ha	0.373	596	110	486
8	Ms Ankush Grover Mines And Stone Crusher , S/O Man Mohan Grover , Vill.- Salukchapra , PS - Nirsa , Dhanbad , Area – 3.64 Ha	0.983	1572	70	1502
9	Ms Asit kumar Mandal Stone MineAt Asanbani,PO-Vitya,PS- Govindpur,Dhanbad Area – 1.295 Ha	1.254	2006	205	1801
10	MS kuldip Kumar CO., AT Mauza -salukchapra , PO - Salukchapra , Dist – Dhanbad Area – 2.76 Ha	1.206	1930	210	1720

District survey Report for Minor Minerals other than sand (Stone)

11	MS Maa Ambey Stone , Prop - Devashi Pramanik , S/O Banmanli Pramanik, Amjhar PO+PS - Baliapur , Dhanbad Area – 1.05 Ha	0.205	328	25	303
12	Rana Uday Pratap SinghAT - Marro , Ps - Govindpur , Dhanbad , Area – 1.27 Ha	0.369	590	55	535
13	Rana Uday Pratap SinghAT - Marro , Ps - Govindpur , Dhanbad , Area – 4.795 Ha	0.988	1580	88	1492
14	Sri Asit kumar Mandal Vill.- Asanbani,PO-Vitya,PS- Govindpur,Dhanbad ,Mauza – Garga , Area – 3.72 Ha	0.853	1365	195	1170
15	Sri Asit kumar Mandal & Azad Ansari , Vill.- Asanbani,PO- Vitya,PS-Govindpur,Dhanbad ,Mauza - Garga, Area - 3.17 Ha	1.052	1683	200	1483
16	Sri Asit kumar Mandal & Azad AnsariVill.- Asanbani,PO- Vitya,PS-Govindpur,Dhanbad ,Mauza - Garga, Area - 2.83 Ha	0.935	1496	185	1311
17	Sri Asit kumar Mandal & Azad Ansari , Vill.- Asanbani,PO- Vitya,PS-Govindpur,Dhanbad ,Mauza – Garga , Area – 1.57 Ha	0.522	832	200	632
18	Sri Pritpal Singh Stone Mines At - Amjhar , PO/PS -Baliapur , Dhanbad , Area – 2.78 Ha	1.0	1600	90	1510
19	Umesh Kumar And Suresh Kumar Mahato , Gandhi Nagar , PO - Nichitpur , PS - Govindpur , Dhanbad,	0.219	350	80	270

District survey Report for Minor Minerals other than sand (Stone)

	Area – 1.08 Ha				
20	Rajiv Nayan Sharma , S/O - Sri Prasad Sharma Sawaigada , PO -Palani , PS - Baliapur , Dhanbad , Area – 1.53 Ha	0.189	302	110	192
21	M/S Maa Bindhyawasini Minerals ,Sri Sanjeev Kumar Gope & others S/O Sri Ashok Kumar Gope Village & P.O. Moko Thana: Baliapur, District: Dhanbad , Area – 1.93 Ha	0.625	1000	190	810
22	M/S Man Mohan Grover Sri Ankush Grover At Post & Village: Baliapur, District: Dhanbad Jharkhand , Area – 2.96 Ha	0.680	1088	80	1008
23	Nasim Ansari , Vill. - Murgabani, PO - Jangalpur, PS - Govindpur , Dist. Dhanbad, Area – 0.866 Ha	0.340	544	110	434
24	Rameshwar Mahato , S/O - Late Deglal Mahato, PO- Birni, PS - Nawadih , Dist.- Dhanbad , Area – 2.83 Ha	0.934	1494	90	1404
25	Part. -(1) Shyamal kumar Mondal , S/O - Sadanand Mondal , Vill. - Dudhiya , PO- Moko, PS - Baliapur , Dhanbad , Jharkhand & (2) Shyamal Kumar pandey , S/O - Late Mahdev Pandey , Vill - Sindurpur , PO+PS - Baliapur , Dhanbad , Area – 0.65 Ha	0.647	1035	170	865
26	M/S Chinmastika stone Minerals , Part-(I) Sri Dihchand Mehta Part-(ii) Sri kailash Yadav ,	0.10	160	40	120

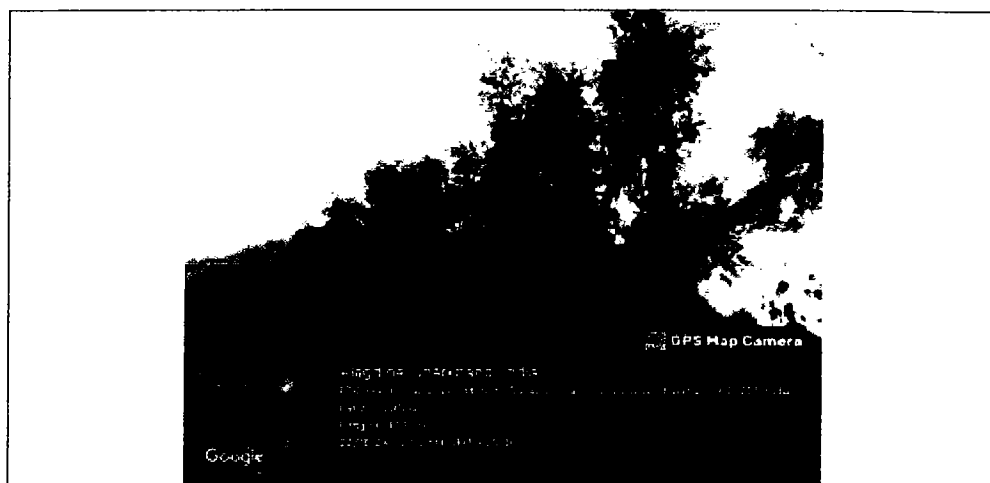
District survey Report for Minor Minerals other than sand (Stone)

	Area – 1.22 Ha				
27	M/S Mahalaxmi Minerals , Partner -(i) Santosh Prasad , S/O Sri Maheshwar Modi , (ii) Sarvjeet Singh Rana , S/O - J.S Rana , Area -1.129 Ha	0.372	595	51	534

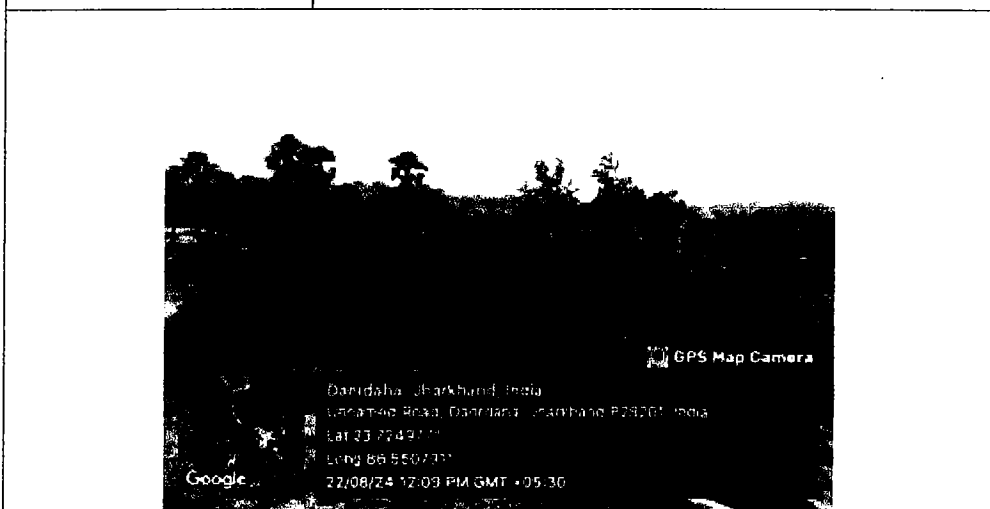
Note – Total No. of Plants 3244 out of 26850 that is 12.08 % present on sites.

The Deputy commissioner through District mining office 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

District survey Report for Minor Minerals other than sand (Stone)

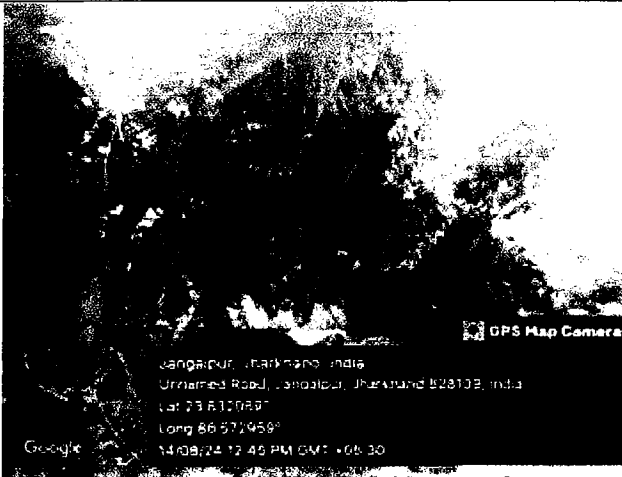


Mining Lease Details & Area	Prop. – G.S.Duggal And Brothers Area -2.792 ha
No. Of Trees proposed in Mining Plan	1160
No. of Trees on site	175



Mining Lease Details & Area	Prop. – Kamal Kumar das Stone Mines , S/O Virbham Das , Baliapur Area – 0.81 ha
No. Of Trees proposed in Mining Plan	175
No. of Trees on site	65

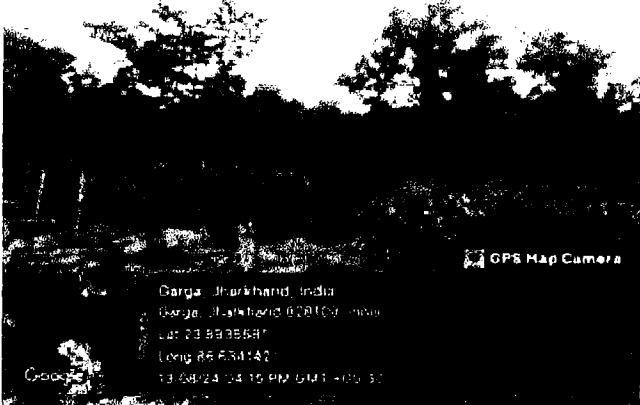
District survey Report for Minor Minerals other than sand (Stone)

	
Mining Lease Details & Area	Prop. – Mannu Alam , AT/PO - Jangalpur,Dhanbad \ Area -1.773 ha
No. Of Trees proposed in Mining Plan	450
No. of Trees on site	150
	
Mining Lease Details & Area	Prop. Mannu Alam Stone MinesAT/PO - Jangalpur,Dhanbad Area – 1.29 ha
No. Of Trees proposed in Mining Plan	400
No. of Trees on site	95

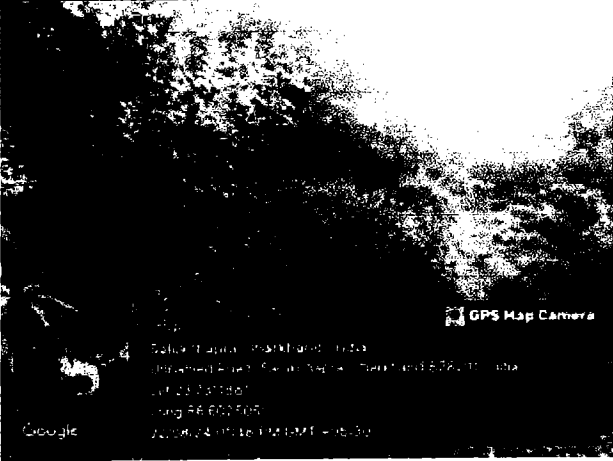
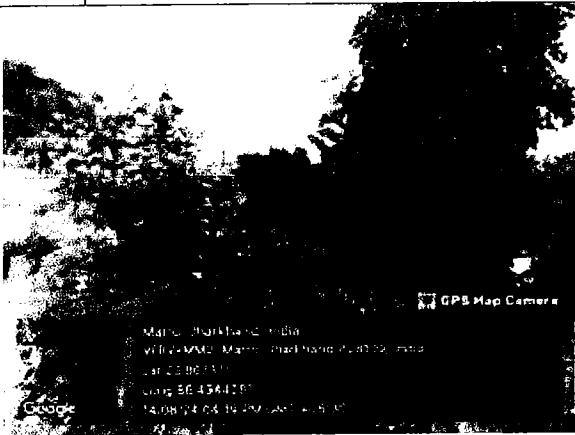
District survey Report for Minor Minerals other than sand (Stone)

	
Mining Lease Details & Area	Prop. – Md Mokim Ansari , S/O Mustak Ansari Add Jangalpur PS Govindpur,Dhanbad Area -0.85 ha
No. Of Trees proposed in Mining Plan	400
No. of Trees on site	125
	
Mining Lease Details & Area	Prop. – Md Mubarak Hussain And Md Mahmud Ansari ,At Jangalpur , PO Jangalpur , PS govindpur,Dhanbad Area – 1.437 ha
No. Of Trees proposed in Mining Plan	610
No. of Trees on site	110

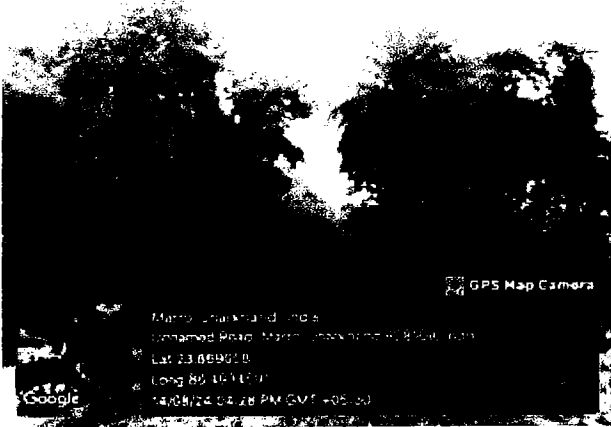
District survey Report for Minor Minerals other than sand (Stone)

	
Mining Lease Details & Area	Prop. – Ms Ankush Grover Mines And Stone Crusher , S/O Man Mohan Grover , Vill.-Salukchapra , PS - Nirsra , Dhanbad , Area – 3.64 ha
No. Of Trees proposed in Mining Plan	500
No. of Trees on site	70
	
Mining Lease Details & Area	Prop. – Ms Asit kumar Mandal Stone Mine At Asanbani, PO-Vitya, PS-Govindpur, Dhanbad Area – 1.295 ha
No. Of Trees proposed in Mining Plan	500
No. of Trees on site	205

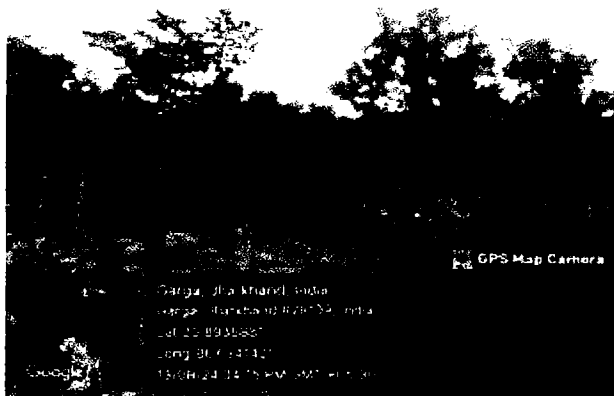
District survey Report for Minor Minerals other than sand (Stone)

	
Mining Lease Details & Area	Prop. – MS kuldip Kumar CO., AT Mauza -salukchapra , PO - Salukchakra , Dist – Dhanbad Area – 2.76 ha
No. Of Trees proposed in Mining Plan	1000
No. of Trees on site	210
	
Mining Lease Details & Area	Prop. – Rana Uday Pratap Singh AT - Marro , Ps - Govindpur , Dhanbad , Area – 1.27 ha
No. Of Trees proposed in Mining Plan	925
No. of Trees on site	55

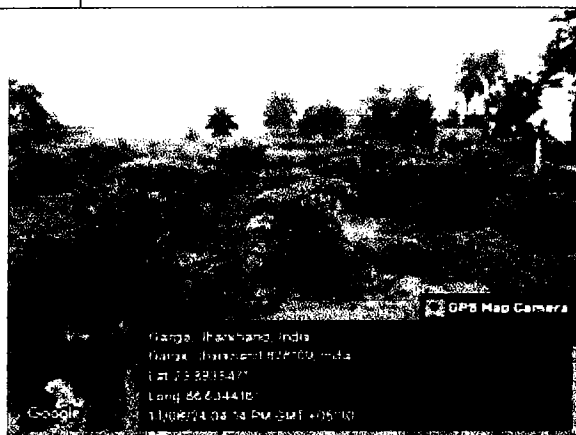
District survey Report for Minor Minerals other than sand (Stone)

	
Mining Lease Details & Area	Prop. – Rana Uday Pratap SinghAT - Marro , Ps - Govindpur , Dhanbad , Area – 4.795 ha
No. Of Trees proposed in Mining Plan	1700
No. of Trees on site	88
	
Mining Lease Details & Area	Prop. – Sri Asit kumar Mandal Vill.- Asanbani,PO-Vitya,PS- Govindpur,Dhanbad ,Mauza – Garga , Area – 3.72 ha
No. Of Trees proposed in Mining Plan	1000
No. of Trees on site	195

District survey Report for Minor Minerals other than sand (Stone)

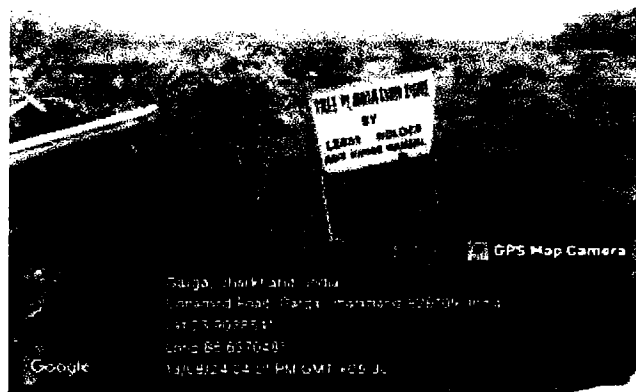


Mining Lease Details & Area	Prop. – Sri Asit kumar Mandal & Azad Ansari , Vill.- Asanbani,PO-Vitya,PS-Govindpur,Dhanbad ,Mauza - Garga, Area - 3.17 ha
No. Of Trees proposed in Mining Plan	1000
No. of Trees on site	200



Mining Lease Details & Area	Prop. – Sri Asit kumar Mandal & Azad Ansari Vill.- Asanbani,PO-Vitya,PS-Govindpur,Dhanbad ,Mauza - Garga, Area - 2.83 ha
No. Of Trees proposed in Mining Plan	1000
No. of Trees on site	185

District survey Report for Minor Minerals other than sand (Stone)

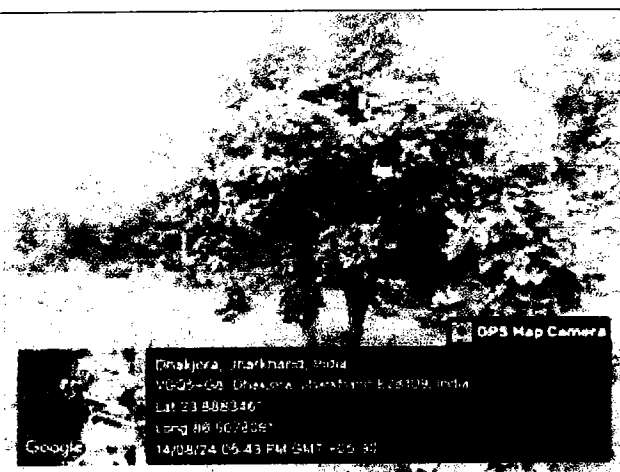
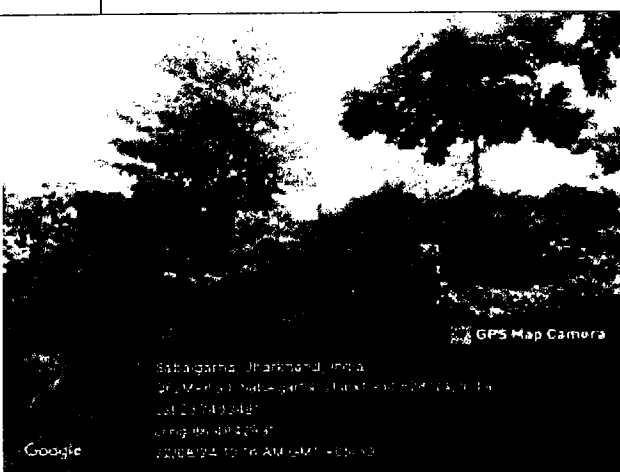


Mining Lease Details & Area	Prop. – Sri Asit kumar Mandal & Azad Ansari , Vill.- Asanbani,PO-Vitya,PS-Govindpur,Dhanbad ,Mauza – Garga , Area – 1.57 ha
No. Of Trees proposed in Mining Plan	500
No. of Trees on site	200

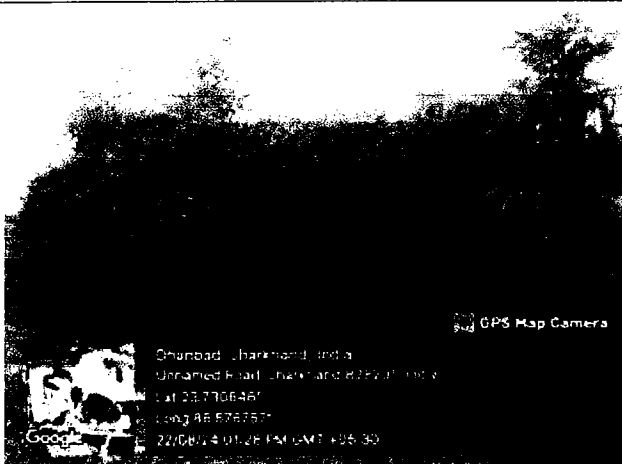


Mining Lease Details & Area	Prop. – Sri Pritpal Singh Stone Mines At - Amjhar , PO/PS - Baliapur , Dhanbad , Area – 2.78 ha
No. Of Trees proposed in Mining Plan	1200
No. of Trees on site	90

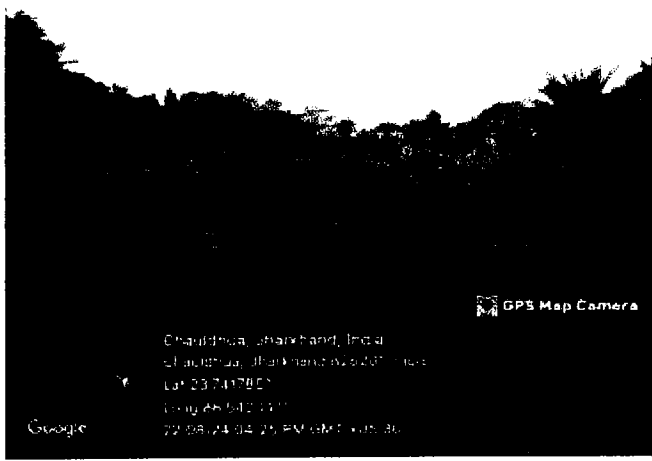
District survey Report for Minor Minerals other than sand (Stone)

	
Mining Lease Details & Area	Prop. – Umesh Kumar And Suresh Kumar Mahato , Gandhi Nagar , PO - Nichitpur , PS - Govindpur , Dhanbad, Area – 1.08 ha
No. Of Trees proposed in Mining Plan	500
No. of Trees on site	80
	
Mining Lease Details & Area	Prop. – Rajiv Nayan Sharma , S/O - Sri Prasad Sharma Sawaigada , PO -Palani , PS - Baliapur , Dhanbad Area – 1.53 ha
No. Of Trees proposed in Mining Plan	450
No. of Trees on site	110

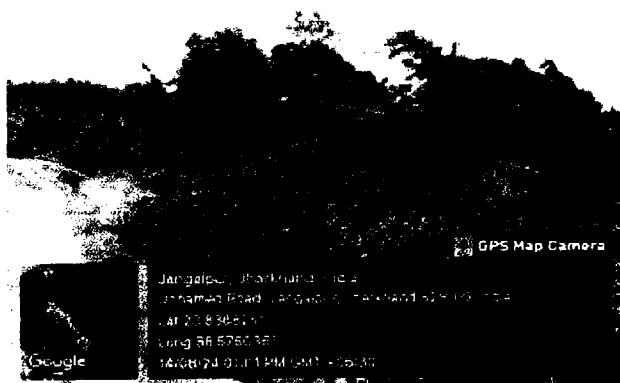
District survey Report for Minor Minerals other than sand (Stone)

	
Mining Lease Details & Area	M/S Man Mohan Grover Sri Ankush Grover At Post & Village: Baliapur, District: Dhanbad Jharkhand , Area – 2.96 ha
No. Of Trees proposed in Mining Plan	500
No. of Trees on site	80
	
Mining Lease Details & Area	Prop. – Nasim Ansari , Vill. - Murgabani, PO - Jangalpur, PS - Govindpur , Dist. Dhanbad, Area – 0.866 ha
No. Of Trees proposed in Mining Plan	600
No. of Trees on site	110

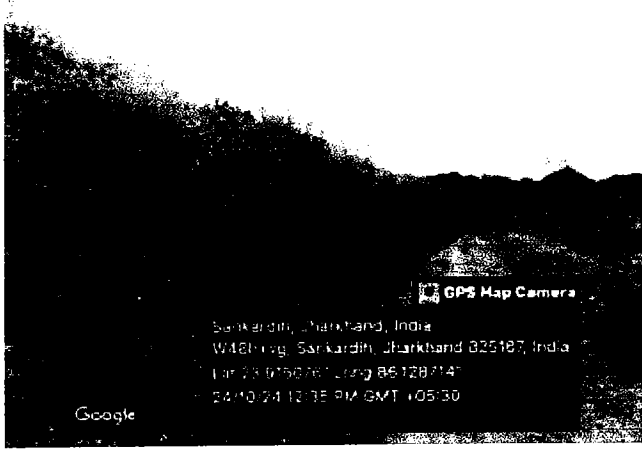
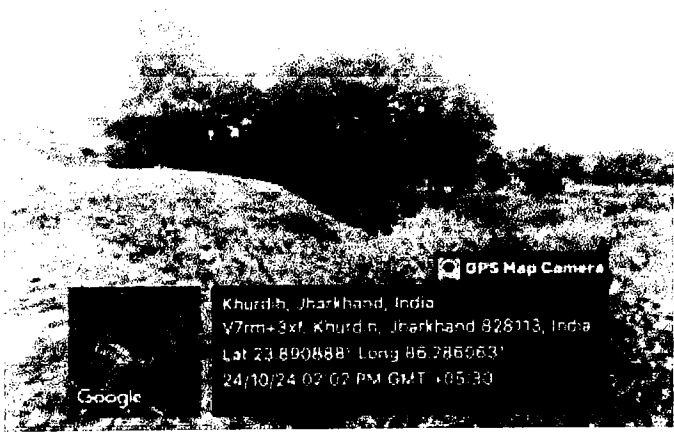
District survey Report for Minor Minerals other than sand (Stone)

	
Mining Lease Details & Area	Prop - Rameshwar Mahato , S/O - Late Deglal Mahato,PO-Birni,PS - Nawadih , Dist.-Dhanbad , Area –2.83 ha
No. Of Trees proposed in Mining Plan	1200
No. of Trees on site	90
	
Mining Lease Details & Area	Part. -(1)Shyamal kumar Mondal , S/O - Sadanand Mondal ,Vill. - Dudhiya , PO- Moko,PS - Baliapur ,Dhanbad , jharkhand & (2) Shyamal Kumar pandey ,S/O - Late Mahdev Pandey ,Vill - Sindurpur , PO+PS - Baliapur , Dhanbad , Area –0.65 ha
No. Of Trees proposed in Mining Plan	744
No. of Trees on site	170

District survey Report for Minor Minerals other than sand (Stone)

	
Mining Lease Details & Area	Israq Zia , S/O Md Kasim Ansari , Jangalpur , PO – Jangalpur , Area -3.246 Ha
No. Of Trees proposed in Mining Plan	1427
No. of Trees on site	80
	
Mining Lease Details & Area	M/S Maa Bindhyawasini Minerals ,Sri Sanjeev Kumar Gope &others S/O Sri Ashok Kumar Gope Village & P.O. Moko Thana: Baliapur, District: Dhanbad , Area – 1.93 Ha
No. Of Trees proposed in Mining Plan	1000
No. of Trees on site	190

District survey Report for Minor Minerals other than sand (Stone)

	
Mining Lease Details & Area	Prop. – M/S Chinmastika stone Minerals , Part-(I) Sri Dihchand Mehta Part-(ii) Sri kailash Yadav , Area -1.22 Ha
No. Of Trees proposed in Mining Plan	160
No. of Trees on site	40
	
Mining Lease Details & Area	Prop. – M/S Mahalaxmi Minerals , Partner -(i) Santosh Prasad , S/O Sri Maheshwar Modi , (ii) Sarvjeet Singh Rana , S/O - J.S Rana , Area -1.129 Ha
No. Of Trees proposed in Mining Plan	595
No. of Trees on site	51

Chapter - 27 Other Information

27.1 Photography during site visit by sub-divisional committee



District survey Report for Minor Minerals other than sand (Stone)

27.3 Other Details on Mining Lease in the District

27.4 Public Consultation

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

District survey Report for Minor Minerals other than sand (Stone)

Figure 2 Year-Wise & Block-Wise Ambient Air Quality Data of the District



झारखण्ड राज्य प्रदूषण नियंत्रण पर्वद
Jharkhand State Pollution Control Board
HIG-1, Housing Colony, Dhanbad-826001

Ph: 9526-3510094

Letter No: 1342

Dated: 01/08/2024

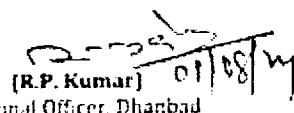
From
R.P. Kumar,
Regional Officer,
Dhanbad

To
The District Mining Officer
District- Dhanbad

Subject: Ambient Air Quality Reports (AAQRs) of Mine units of Dhanbad District
Ref: Your office Letter No - 966/M ; Dated- 08.07.2024

Sir,
For the preparation of DSR, The Ambient Air Quality Reports (AAQRs) of Mine units are attached herewith for further action. These Reports are prepared within last one year
Encl: A.a.

Your's faithfully,


[R.P. Kumar]
Regional Officer, Dhanbad



SCIENTIFIC RESEARCH LABORATORY
ISO 9001:2015 Certified Organization

An ISO 9001:2015 (QMS) & OHSMS 45001:2018 Certified Organization
Accredited by Jharkhand State Pollution Control Board

Accepted: 11 August 2016

1441 Apple Valley Day Funding Ranch 834 004, Pleasant

2023-2024 Academic Year - 2023-2024

TEST REPORT

Test Report No. SR/LR/ACQ/APR/24-41
Application No. 19108345

Report Issue Date	22 04 2024
Approval Date	15 04 2024

Customer's Name & Address

Mr. J. Edgar Hoover & Co. - President
of the American Bar Association

Sample Details

Type of Sample	Ambient Air
Date of Sampling	18-04-2024 to 19-04-2024
Sample Received Date	19-04-2024
Analysis Date	19-04-2024 to 22-04-2024
Sample Collected by	SRI Team

Weather Condition: Clear
Atmospheric Pressure: 1014 hPa

Ambient Temperature (°C)	33	Relative Humidity (%)	45
Wind Speed (m/s)	0.3	Wind Direction	N/A

TEST RESULTS

Sl. No.	Parameters	Unit	Results	Standards Value*	Test Method
1. Sampling Location: Northern Side of Mine Lease Area (within Safety Barrier)					
1	Respirable Particulate Matter (PM ₁₀)	µg/m ³	63.00	100	IS 5182 (Part 25: 2006)
2	Respirable Particulate Matter (PM _{2.5})	µg/m ³	31.16	60	IS 5182 (Part 24: 2006)
3	Sulphur Dioxide (SO ₂)	µg/m ³	39.40	80	IS 5182 (Part 2: 2006)
4	Nitrogen Dioxide (NO ₂)	µg/m ³	15.76	80	IS 5182 (Part 3: 2006)
2. Sampling Location: Eastern Side of Mine Lease Area (within Safety Barrier)					
1	Respirable Particulate Matter (PM ₁₀)	µg/m ³	29.00	100	IS 5182 (Part 25: 2006)
2	Respirable Particulate Matter (PM _{2.5})	µg/m ³	16.21	60	IS 5182 (Part 24: 2006)
3	Sulphur Dioxide (SO ₂)	µg/m ³	65.00	80	IS 5182 (Part 2: 2006)
4	Nitrogen Dioxide (NO ₂)	µg/m ³	34.20	80	IS 5182 (Part 3: 2006)
3. Sampling Location: Western Side of Mine Lease Area (within Safety Barrier)					
1	Respirable Particulate Matter (PM ₁₀)	µg/m ³	69.00	100	IS 5182 (Part 25: 2006)
2	Respirable Particulate Matter (PM _{2.5})	µg/m ³	39.00	60	IS 5182 (Part 24: 2006)
3	Sulphur Dioxide (SO ₂)	µg/m ³	36.00	80	IS 5182 (Part 2: 2006)
4	Nitrogen Dioxide (NO ₂)	µg/m ³	15.00	80	IS 5182 (Part 3: 2006)

Statement: *My data was not distributed. An incorrect variable(s) was/were the prescribed list!*

National Archives and Records Administration

44:1.

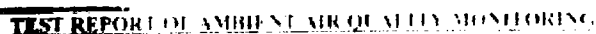
- The results to date are only for the items sampled and tested.
Test report shall include report and be kept for 2 years with the records of the laboratory.

Author: Author: 5/1/2019
Author: 5/1/2019

“ ॥ ॐ नमो भगवते वासुदेवाय ॥ ”

5d.1f. The content of W 1014r (200v) about 1812

District survey Report for Minor Minerals other than sand (Stone)



Report Release Date	05 Jun 2023
Work Order Date	26 Oct 2023

Parameters

Test Protocol:

Limits

Discussion

The

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1

116-412

10 40

4. SD.

10

Longitude: 21° 128.00' N
Latitude: 86° 17' 49" E

440-224

44

1

1

242

1. **Remarks** - All values are observed w/ within the limit
2. **Abbreviation:-** MDL: Minimum Detection Limit, BDL: Below Detection Limit
3. **Environmental Condition of the Lab.** Temperature: 25 ± 0.5 °C, Relative Humidity = 40% ± 10%
in all testing areas as per IS 156:1996

KRISHNA KUMAR
(Quality Manager)



ABOUT THE AUTHOR

Dr. J. H. S. G. is a senior lecturer in the Department of Psychology, University of Hong Kong.

As expected

Address: - 192K, VIDHYA VASAHARI, ASHOK NAGAR, ROYPORE, BARKHANA (JHARKHAND)
Contact: - +91-9956095641, +91-9546333332, Email: visionearth@jyoti@gmail.com

District survey Report for Minor Minerals other than sand (Stone)

VISION EARTH CONSULTANCY PVT. LTD.

AN ISO 9001:2015 CERTIFIED COMPANY



TEST REPORT OF AMBIENT AIR QUALITY MONITORING

Test Report No.	VFC/RNC/23-24/128	Report Release Date	05.10.2023
Application No.	17383082	Work Order Date	28.09.2023
CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	M/S. MISHRA MINERALS	Sample No.	23/09/23/128/01
Address	Plot 40/1, Sector 13, Gurgaon	Sample Received Date	01.10.2023
		Project Name	Complaint
		Sampling Procedure	INTEGRO-SM-101
		Sample Drawn By	VFC
		Period of Analysis	01.10.2023 to 01.10.2023

Plant Status: Non-operational

METEOROLOGICAL INFORMATION

Average Temperature (°C): 27.0
Relative Humidity (%): 69%

Barometric Pressure (mmHg): 760.0
Weather Condition: Partly cloudy

Parameters			Particulate Matter (PM10)	Particulate Matter (PM2.5)	Sulphur Dioxide (SO ₂)	Nitrogen Dioxide (NO ₂)
Test Protocol			IS 5182 (2011)	IS 5182 (2011)	IS 5182 (2011)	IS 5182 (2011)
Limits			500	150	80	80
Locations	Time	Unit				
Near Road (N)	01.10.2023 08:00 AM	µg/m ³	40	38	5.4	22.5
	01.10.2023 09:00 AM	µg/m ³				
	01.10.2023 10:00 AM	µg/m ³				
	01.10.2023 11:00 AM	µg/m ³				
	01.10.2023 12:00 PM	µg/m ³				
Average			40	38	5.4	22.5
Near Road (S)	01.10.2023 08:00 AM	µg/m ³	40	40	6.1	21.9
	01.10.2023 09:00 AM	µg/m ³				
	01.10.2023 10:00 AM	µg/m ³				
	01.10.2023 11:00 AM	µg/m ³				
	01.10.2023 12:00 PM	µg/m ³				
Average			40	40	6.1	21.9

Kishna Kumar
Quality Manager



exp: 10/10/2023
Surv: 1
Address: 192 C, VIDHYALAY MARG, ASHOK NAGAR, RANCHI, JHARKHAND (834002)
Contact: +91 9956095641, +91 9546333332, Email: visionearthjhk@gmail.com

District survey Report for Minor Minerals other than sand (Stone)



ENVIROCHECK

Established by: ENVIROCHECK (PVT) LIMITED & Registered by: ENVIRO
ISO 9001:2015 & ISO 17025:2017 Certified Laboratory
Lab: MHC, H-3 Housing Colony, Dhanbad, Pin: 826001, State: Jharkhand & 9839547044



TC 31301

TEST REPORT

FORMAT NO. ENVIR-FRM-17

APPLICATION NO. - 17295239 DTD. 20.09.2023

Name of the Industry	Maa Bindhyawasin Minerals		Type of Industry	Stone Deposit Unit	
Address	Kulbura Stone Deposits		Sampling Date	23.09.2023 - 24.09.2023	
	At - Kulbura P.O. - Dumaria P.S. - Birsa Dist. - Jharkhand		Period of Analysis	25.09.2023 - 26.09.2023	
			Date of Issue	26.09.2023	
Sampling Plan & Procedure	ENV/SOP/01	Deviation from the Sampling Method and Plan	No	Type of Sample	Ambient Air
Sample Condition	Sealed	Sample ID	ENVIR/02/Sep/A/1	Report No.	ENVIR/02/Sep/TR/01/24-24

A) GENERAL INFORMATION

1. Location of Sampling: North - East Side of the Mines
2. Duration of Sampling: 24 hrs. (19:30 am - 09:30 am)

B) RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.	RESULTS	LIMIT
1.	Concentration of PM ₁₀	µg/m ³	USEPA 1997a, 41 CFR Part 50, Appendix L (2006)	52.96	100.0
2.	Concentration of PM _{2.5}	µg/m ³	USEPA (Part 24) (2006)	42.66	100.0
3.	Concentration of SO ₂	µg/m ³	IS 5182 (Part 1) (2013)	6.51	100.0
4.	Concentration of NO ₂	µg/m ³	IS 5182 (Part 1) (2013)	29.38	100.0

Remarks: Result shows that all parameters are within limit as per IS 5182.
Result made only to the sample tested.

Reviewed By:

(Saswati Burman Roy, Dy. Quality Manager)

Authorized Signatory:

(Dr. Ajoy Paul, Quality Manager)

Kolkata Office : 63/B, Kastirguru Avenue, Kolkata - 700028 | 033-25792892/35467400
Email: envirocheck50@gmail.com
Website: www.envirocheck.in

Page 1 of 5

Lab: MHC 9.3 Housing Colony Chemical Pm. 816331 State: Washington 98105-7614



FORMAT NO: ~~ENYK-FM-27~~

Name of the Industry	Maa Bhandi Awasari Materials		Type of Industry	Moist Deposit Unit	
Address	National State Depository		Sampling Date	23.09.2023	24.09.2023
	At - Khubara B/D - Durgam Ch - N. Sec. Dist - Dhankad		Period of Analysis	25.09.2023	27.09.2023
			Date of Issue	26.09.2023	
Sampling Plan & Procedure	ENV/SOP/EU	Evaluation from the Sampling Method		No	Type of Sample
		and Plan			Ambient Air
Sample Condition	Sealed	Sample ID	ENV/KR/23/Sep/AU/D	Report No	ENV/KR/23/Sep - RIA/01/25/24

1	Location of Sampling	North - West Side of the Mine
2	Duration of Sampling	24 hrs. (10:00 am - 10:00 am)

Sl. No.	PARAMETERS	UNIT	METHOD NO.	RESULTS	LIMIT
1.	Concentration of PM ₁₀	µg/m ³	IS 11724:1997a 40 CFR Part 50, Appendix E 2006	42.40	600
2.	Concentration of PM _{2.5}	µg/m ³	IS 11724:1997a 2006	26.29	100
3.	Concentration of SO ₂	µg/m ³	IS 11724:1997a 21 2006	6.30	800
4.	Concentration of NO _x	µg/m ³	IS 11724:1997a 2006	26.22	800

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U.S. DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C. 20535

(Saswata Burman Roy, Dy. Quality Manager)

(Dr. Ajoy Paul, Quality Manager)

Epikata Office 63/W. Restingara Avenue Epikata 700028 (033 7578200 / 25267400
Email epikatacheck30@gmail.com
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Page 2 of 5

District survey Report for Minor Minerals other than sand (Stone)



ENVIROCHECK

Certified by ISO 15189:2013, NABL & NIOSH Accredited
 Registered under F.A.T. (2001-2013) under the name of
 Lab: MRS H. J. Housing Colony, Chhabra, Pin: 824001, State: Jharkhand | 9836671044



7611403

TEST REPORT

FORMAL NO. ENVIR/ML/17

APPLICATION NO.: 17295239 DTD: 20.09.2023

Name of the Industry	Maa Bindhya Swami Minerals (Kulbura Stone Deposite)	Type of Industry	Stone Deposit Unit
Address	At - Kulbura, P.O. - Dhanbad, Jharkhand - 826001	Sampling Date	24.09.2023
		Period of Analysis	25.09.2023 - 26.09.2023
		Date of Issue	26.09.2023
Sampling Plan & Procedure	ENV/SOP/01	Deviation from the Sampling Method and Plan	No
Sample	Sealed	Type of Sample	Ambient Air
Complain	Sample ID: No.	Report No.	ENVIR/B2/Sep/TR/01/24/24

A) GENERAL INFORMATION

1. Location of Sampling: South - West side of the Mine
2. Duration of Sampling: 24 Hrs (10:30 am - 10:30 am)

B) RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO	RESULTS	LIMIT
1.	Concentration of PM ₁₀	µg/m ³	USEPA (997) & 40 CFR Part 50, Appendix I, 2006	46.23	100
2.	Concentration of PM _{2.5}	µg/m ³	IS 5182 (Part 2): 2006	74.10	100
3.	Concentration of SO ₂	µg/m ³	IS 5182 (Part 2): 2006	5.09	80
4.	Concentration of NO ₂	µg/m ³	IS 5182 (Part 2): 2006	21.46	80

Remarks: Result shows that all parameters are within limit as per CPCB.
 Result is only in the output report.

Reviewed By:

(Saswata Gurman Roy, Dy. Quality Manager)

Authorised Signatory:

(Dr. Ajoy Paul, Quality Manager)

Kolkata Office: 83/B, Resurgency Avenue, Kolkata - 700028 | Call: 26787801/26787490
 Email: envirocheck50@gmail.com
 Website: www.envirocheck.in

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District survey Report for Minor Minerals other than sand (Stone)



Institute for Environmental Management

Accredited by: District Bureau of Environmental and Forests (DBEF)
for Environmental Management System
ISO 9001:2015 and ISO 14001:2015 Management System



Test Report

Discipline: Chemical	Group: Atmospheric Pollution	Sub-Group: Ambient Air
Report Issue Date: 16-06-2023	Test Report No.: RN-230612001A	
Sample ID: 2306*4AP05001-002-003	Sample Description: Ambient Air	
Challan No./P.O. No.: 16522596	Challan No./P.No. Date: 12-06-2023	
Issued to: Nasim Ansari Stone Mine At- Dumurua, P.O- Dumurua, Ps- Nirsa, Dist- Dhanbad		
Type of Industry: Stone Mines	Customer Representative: Md Nasim Ansari	
Sample Drawn by: IEM Team	Sampling Date: 13-06-2023 to 14-06-2023	
Protocol: CPCB Guideline/NAAGMS/36/2012-131 & S Method 5182 Series		
Sampling Location: A. Near Office B. Near North West Corner C. Near North East Corner	Co-ordinates: 23°42'13.81"N to 86°38'31.16"E Co-ordinates: 23°42'19.29"N to 86°38'31.34"E Co-ordinates: 23°42'16.99"N to 86°38'34.86"E	
Field Meteorological Information: A. Temp. (°C): 34 R.H. (%): 45 Sample Receiving Date: 14-06-2023 Testing Started: 14-06-2023	W.C.: Sunny W.D.: East West Testing Ended: 16-06-2023	

Test Results

Sl.No	Parameters	Test Method No	Unit	Standard Norms**	Results		
					A	B	C
1	Particulate Matter (PM ₁₀)	S 5182 Part-23	µg/m ³	100	73.75	75.78	78.62
2	Sulphur Dioxide (SO ₂)	IS 5182 Part-02	µg/m ³	BC	15.59	16.57	17.54
3	Nitrogen Dioxide (NO ₂)	IS 5182 Part-06	µg/m ³	BC	31.56	32.58	33.59

End of Report

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

Tested By: Neema Kumar

Sample Drawn By: Deepak Kr. Singh & Team

Specific Contractual Notes

- The laboratory accepts responsibility for content of this report.
 - This report shall not be reproduced without prior written approval of the IEM.
 - This report is intended for only guidance and not for legal purpose or for government.
 - Any complaint about this report should be communicated in writing within 7 days of its issue.
 - The liability of Institute for Environmental Management will be limited to amount of fee.
 - In case of feedback, complaints, please send an email at info@iemindia.com.
- On the basis of Quality Checked and Technical data verified by the Authorized Signatory, this report is issued by the Director of the Organization.

Quality Checked By: _____ Authorized Signatory: _____

(Signature) (Signature)
By: Quality Manager Director



ISO 9001:2015
Institute for Environmental Management
100450012015



District survey Report for Minor Minerals other than sand (Stone)



ADITI R&D SERVICES

Testing Laboratory
NABL ACCREDITED

Plot No. B-17, P. Sindri Industrial Area, P.O. Domargu, Dist. Dhanbad, Jharkhand 826107
E-mail: info@aditi-rd.com Mob: 9947135843 Fax: 943112503 Ph: 329-2952377



TC- 6076

TEST REPORT

CUR No. TC517624000000165F Test Report No. 106 Application No and Date: 14035805/05/11/2024 Customer Name and Address: M/S S. B. A. MINERALS, KADAIYA STONE DEPOSIT: KHATA NO. 23.24 & 189 Plot NO. 223 TO 227, 472, 478, 479 & 480 AT: KADAIYA, PO: KESKA DIST: DHANBAD Sample Details: Ambient Air Quality Test Required PRT: SO ₂ , NO _x , PM ₁₀	Date of Visit: 17/04/2024 Registration No. 01, B-17, P. Sindri Industrial Area, P.O. Domargu, Dist. Dhanbad, Jharkhand 826107 Date of Test: 18/04/2024 Date of Report: 19/04/2024
--	--

TEST RESULT

Type of Facility: STONE MINES Location at 3 station	Status of the plant APPLICATION FOR NOC 1. South East Corner of the Plot 2. South West Corner of the Plot 3. North East Corner of the Plot
---	--

Name of the Analyst: S. N. Pal, Sr. Chemist	Name of the Analyst: S. N. Pal, Sr. Chemist
--	--

Parameter	Unit	Test Result	Limit Value
1. Total Suspended Matter (TSM)	µg/m ³	125.12	230
2. Sulfur Dioxide (SO ₂)	ppb	51.38	49.42
3. Nitrogen Dioxide (NO ₂)	ppb	16.31	17.84
4. Nitrogen Monoxide (NO)	ppb	23.48	29.22

Reference: IS 15586 Part 1: 2006 (RA 2006)

S. N. Pal, Sr. Chemist
Tested by

Technical Manager
Authorized Signature

Statements

- The test report refers only to the particulars furnished for testing.
- The test results reported in this report are valid at the time and under the stated condition of measurement.
- This particular test report cannot be reproduced or copied without prior written permission of Quality & Technical Manager of the laboratory.

District survey Report for Minor Minerals other than sand (Stone)



ENVIROCHECK

Recognized by WHO, WHO, WHO, WHO
Accredited by NABL (ISO/IEC 17025:2017)
Lab. No. 165/EC/M/1/A/1, ISO/IEC 17025:2017



TEST REPORT

FORMAT NO. ENV/PM/37

Name of the Industry	G. S. Duggal Quarry & Crusher	Type of Industry	Boulder & Mines & Stone Crushing Unit
Address	Kuamaland, P.O. - Pargha, Dhanbad	Sampling Date	05.01.2021 - 06.01.2021
		Period of Analysis	08.01.2021 - 09.01.2021
		Date of Issue	11.01.2021
Sampling Plan & Procedure	ENV/SOP/01	Deviation from the Sampling Method and Plan	No
Sample ID No.	165/EC/M/1/A/1	Report No.	165/EC/M/1/TR(A)/20-21

A) GENERAL INFORMATION

1. Location of Sampling : Near Main Entrance
2. Duration of Sampling : 24 hrs. (09:50 a.m. - 09:50 a.m.)

B) METEOROLOGICAL INFORMATION

1. Average Temperature (°C) : 23.5
2. Average Relative Humidity (%) : 46.0
3. Barometric Pressure (mm of Hg) : 758.0
4. Smell or Odour : No Remarkable Smell
5. Weather Condition : Clear sky

C) RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.	RESULTS	LIMIT
1.	Concentration of PM _{2.5}	µg/m ³	USEPA 1997a, 40 CFR Part 50, Appendix L	54.1	60.0
2.	Concentration of PM ₁₀	µg/m ³	IS 5182 (PART 23) : 2006	86.2	100.0
3.	Concentration of SO ₂	µg/m ³	IS 5182 (Part 2) 2001 & ASTM D 2914-01 reapproved 2007: Sec. 11 (Vol. 11.07) : 2011	7.20	80.0
4.	Concentration of NO ₂	µg/m ³	IS 5182 (Part 6) 2006 & ASTM D 1607-91 reapproved 2005 : Sec. 11 (Vol. 11.07) : 2011	26.5	80.0

Remarks : Result shows that all parameters are within limit as per ISPCB

Reviewed By :

(Durbadal Chakraborty, Dy. Quality Manager)

Approved By :

(Dr. Ajoy Paul, Quality Manager)

H.O. : 63/B, Rastrapur Avenue, Kolkata - 700028 (033-25792381/25497490, Fax : 033-25299141
Laboratory : 195/190&192 Rastrapur Avenue, Kolkata 700028 : 033 26792889
Email : info@envirocheck.org / envirocheck50@gmail.com ; Website : www.envirocheck.org
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District survey Report for Minor Minerals other than sand (Stone)



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: NABL accredited testing laboratory vide certificate Number: TC-4032
Jharkhand State Pollution Control Board (JSPCB)
ISO 9001:2015 & ISO 45001:2018



TC-4032

Test Certificate

ULR (Unique Lab Report) No.		T C 4 0 3 2 2 2 0 0 0 0 8 8 9 F										
Discipline	Chemical	Group	Atmospheric Pollution		Sample Description	Ambient Air Quality						
Report Release Date	30 th May, 2022				Report ID	YBAEEL-220409-114345-A01						
W. Order/ JSPCB App. No.	12553051				Work Order Date	06.04.2022						
Type of Industry (If any)	Stone Mines				Job code/ Ref. no.	YBAEEL/WA/LIA/May-22/42						
Report issue to	M/s Ishraq Zia Stone Mines Vill.- Gorga, Thana - Nirsa, Dist. - Rahanbad, Jharkhand.											
Sampling Period	24/05/2022 - 25/05/2022				Mode of sample collection	By YBAEEL Team						
Sampling Protocol	IS-5182 and CPCB Air Manual Volume-1 (NAAQM36/2012-13)											
Sampling Locations	A. North-East Direction				23°53'28.18"N. 86°35'12.73"E							
	B. South-East Direction				23°53'27.20"N. 86°35'13.11"E							
	C. West Direction				23°53'27.71"N. 86°35'11.84"E							
Meteorological Cond. of Field	W.C. - Partly Cloudy				RR % - 61	Temp. - 26°C	W.D. - North-South					
Sample receipt Date	25/05/2022				Analysis Started on	25/05/2022		Analysis completed on	30/05/2022			

*****Test Results*****

Parameters	Test Methods	Units	MU %	Sampling Location			Limits
				Site A	Site B	Site C	
Particulate matter (PM ₁₀)	IS-5182 (P-23) 2006 RA 2017	µg/m ³	7.66	72.2	30.2	75.4	100
Particulate matter (PM _{2.5})	IS-5182 (P-24) 2019	µg/m ³	2.00	35.9	39.5	34.2	50
Sulphure Dioxide (SO ₂)	IS-5182 (P-2) 2021 RA 2017	µg/m ³	7.32	12.9	9.1	10.0	80
Nitrogen Dioxide (NO ₂)	IS-5182 (P-4) 2005 RA 2017	µg/m ³	4.17	24.8	21.8	22.9	80

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

Limit is specified as	As per IS-5182 (P-23) 2006 RA 2017
Abbreviation	W.C. - Weather Condition, RR - Relative Humidity, Temp. - Temperature, W.D. - Wind Direction
Env. Condition of Lab	Lab. temp. is maintained at 27 ± 2°C and Relative Humidity is 60 ± 5% during the test period.
Specific contractual notes	All values are expressed in µg/m³ and results are given only for the tested sample and applicable parameters. As per IS-5182 (P-23) 2006 RA 2017, the report is valid for 1 year from the date of issue of the report. The report cannot be used for subsequent years without the permission of the client. The samples collected should be destroyed after 7 days from the date of issue of the certificate unless specified otherwise. The expiry of the certificate is limited to the number of samples. All disputes are subject to the Jurisdiction of the Court.
Remarks	Sample comply with prescribed limits.

Sample Drawn By - Muneesh Singh
Tester By - Anil Kumar Bishoi (Lab Analyst)

For CONFIRM for
Jharkhand State Pollution Control Board
Application No. 12553051
Allotted Date 06.04.2022
Submission Date 30.05.2022

 Verified by Anil Kumar Bishoi Section In-Charge Authorized Signatory Atmospheric Pollution Yugantar Bharati Analytical & Environmental Engineering Laboratory	 Issued by Muneesh Singh Technical Manager Technical Manager Yugantar Bharati Analytical & Environmental Engineering Laboratory
---	---



Branch Office : Jamshedpur | Dhanbad | Hazaribag | Pakur

Main Office : Namkum Post Office, Sidraul, Ranchi - 834010, Jharkhand

Ph : 09835-97960, 098357-93677, Email - ybaee@gmail.com Web - https://ybaee.in



ISO 9001:2015
ISO 45001:2018



YC-4032

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



Test Certificate

ULR (Unique Lab Report No.)		T C 4 D 3 2 2 3 0 0 0 0 0 0 1 2 8 F																	
Discipline	Chemical	Group	Atmospheric Pollution										Sample Description	Ambient Air Quality					
Report Release Date	27 th January, 2023										Report ID	YBAEEL-230117-123842-A01							
W. Order/ JSPCB App. No.	15389964										Work Order Date	18.01.2023							
Type of Industry (if any)	Stone Mines										Job code/ Ref. no.	YBAEEL/WA/IA/Jan-23/44							
Report Issue to	M/s Kamal Kumar Das Stone Mines At. - Dardaha, PO+PS - Balispor, Dist. - Dhanbad, Jharkhand.																		
Sampling Period	22/01/2023 - 23/01/2023										Mode of sample collection	By YBAEEL Team							
Sampling Protocol	IS-15182 and CPCB Air Manual Volume-1/NAQM/36/2012-13)																		
Sampling Locations	A. East Side										23°43'30"N, 85°33'03"E								
	B. West Side										23°43'30"N, 85°33'01"E								
	C. North Side										23°43'29"N, 85°33'05"E								
Meteorological Cond. of Field	W.C. - Cloudy										RH % - 48			Temp. - 24°C			W.D. - NW-SE		
Sample receipt Date	24/01/2023			Analysis Started on			24/01/2023			Analysis completed on			27/01/2023						

====Test Results====

Parameters	Test Methods	Units	MU %	Sampling Location			Limits
				Site A	Site B	Site C	
Particulate matter (PM ₁₀)	IS 5182 (F-24) 2005 PA 2017	µg/m ³	7.62	74.9	86.5	89.8	100
Particulate matter (PM _{2.5})	IS 5182 (F-24) 2019	µg/m ³	7.62	29.2	31.3	27.0	50
Sulphure Dioxide (SO ₂)	IS 5182 (F-24) 2005 PA 2017	ppm	0.63	15.0	12.8	10.7	50
Nitrogen Dioxide (NO ₂)	IS 5182 (F-6) 2005 PA 2017	ppm	0.7	24.8	21.6	19.4	60

End of Report

Limit is specified as	Limit is specified as 1958
Abbreviation	1958-1959 and 1960-1961, 1962-1963, 1964-1965, 1966-1967, 1968-1969, 1970-1971, 1972-1973, 1974-1975, 1976-1977, 1978-1979, 1980-1981, 1982-1983, 1984-1985, 1986-1987, 1988-1989, 1990-1991, 1992-1993, 1994-1995, 1996-1997, 1998-1999, 2000-2001, 2002-2003, 2004-2005, 2006-2007, 2008-2009, 2010-2011, 2012-2013, 2014-2015, 2016-2017, 2018-2019, 2020-2021, 2022-2023, 2024-2025, 2026-2027, 2028-2029, 2030-2031, 2032-2033, 2034-2035, 2036-2037, 2038-2039, 2040-2041, 2042-2043, 2044-2045, 2046-2047, 2048-2049, 2050-2051, 2052-2053, 2054-2055, 2056-2057, 2058-2059, 2060-2061, 2062-2063, 2064-2065, 2066-2067, 2068-2069, 2070-2071, 2072-2073, 2074-2075, 2076-2077, 2078-2079, 2080-2081, 2082-2083, 2084-2085, 2086-2087, 2088-2089, 2090-2091, 2092-2093, 2094-2095, 2096-2097, 2098-2099, 2100-2101, 2102-2103, 2104-2105, 2106-2107, 2108-2109, 2110-2111, 2112-2113, 2114-2115, 2116-2117, 2118-2119, 2120-2121, 2122-2123, 2124-2125, 2126-2127, 2128-2129, 2130-2131, 2132-2133, 2134-2135, 2136-2137, 2138-2139, 2140-2141, 2142-2143, 2144-2145, 2146-2147, 2148-2149, 2150-2151, 2152-2153, 2154-2155, 2156-2157, 2158-2159, 2160-2161, 2162-2163, 2164-2165, 2166-2167, 2168-2169, 2170-2171, 2172-2173, 2174-2175, 2176-2177, 2178-2179, 2180-2181, 2182-2183, 2184-2185, 2186-2187, 2188-2189, 2190-2191, 2192-2193, 2194-2195, 2196-2197, 2198-2199, 2200-2201, 2202-2203, 2204-2205, 2206-2207, 2208-2209, 2210-2211, 2212-2213, 2214-2215, 2216-2217, 2218-2219, 2220-2221, 2222-2223, 2224-2225, 2226-2227, 2228-2229, 2230-2231, 2232-2233, 2234-2235, 2236-2237, 2238-2239, 2240-2241, 2242-2243, 2244-2245, 2246-2247, 2248-2249, 2250-2251, 2252-2253, 2254-2255, 2256-2257, 2258-2259, 2260-2261, 2262-2263, 2264-2265, 2266-2267, 2268-2269, 2270-2271, 2272-2273, 2274-2275, 2276-2277, 2278-2279, 2280-2281, 2282-2283, 2284-2285, 2286-2287, 2288-2289, 2290-2291, 2292-2293, 2294-2295, 2296-2297, 2298-2299, 2300-2301, 2302-2303, 2304-2305, 2306-2307, 2308-2309, 2310-2311, 2312-2313, 2314-2315, 2316-2317, 2318-2319, 2320-2321, 2322-2323, 2324-2325, 2326-2327, 2328-2329, 2330-2331, 2332-2333, 2334-2335, 2336-2337, 2338-2339, 2340-2341, 2342-2343, 2344-2345, 2346-2347, 2348-2349, 2350-2351, 2352-2353, 2354-2355, 2356-2357, 2358-2359, 2360-2361, 2362-2363, 2364-2365, 2366-2367, 2368-2369, 2370-2371, 2372-2373, 2374-2375, 2376-2377, 2378-2379, 2380-2381, 2382-2383, 2384-2385, 2386-2387, 2388-2389, 2390-2391, 2392-2393, 2394-2395, 2396-2397, 2398-2399, 2400-2401, 2402-2403, 2404-2405, 2406-2407, 2408-2409, 2410-2411, 2412-2413, 2414-2415, 2416-2417, 2418-2419, 2420-2421, 2422-2423, 2424-2425, 2426-2427, 2428-2429, 2430-2431, 2432-2433, 2434-2435, 2436-2437, 2438-2439, 2440-2441, 2442-2443, 2444-2445, 2446-2447, 2448-2449, 2450-2451, 2452-2453, 2454-2455, 2456-2457, 2458-2459, 2460-2461, 2462-2463, 2464-2465, 2466-2467, 2468-2469, 2470-2471, 2472-2473, 2474-2475, 2476-2477, 2478-2479, 2480-2481, 2482-2483, 2484-2485, 2486-2487, 2488-2489, 2490-2491, 2492-2493, 2494-2495, 2496-2497, 2498-2499, 2500-2501, 2502-2503, 2504-2505, 2506-2507, 2508-2509, 2510-2511, 2512-2513, 2514-2515, 2516-2517, 2518-2519, 2520-2521, 2522-2523, 2524-2525, 2526-2527, 2528-2529, 2530-2531, 2532-2533, 2534-2535, 2536-2537, 2538-2539, 2540-2541, 2542-2543, 2544-2545, 2546-2547, 2548-2549, 2550-2551, 2552-2553, 2554-2555, 2556-2557, 2558-2559, 2560-2561, 2562-2563, 2564-2565, 2566-2567, 2568-2569, 2570-2571, 2572-2573, 2574-2575, 2576-2577, 2578-2579, 2580-2581, 2582-2583, 2584-2585, 2586-2587, 2588-2589, 2590-2591, 2592-2593, 2594-2595, 2596-2597, 2598-2599, 2600-2601, 2602-2603, 2604-2605, 2606-2607, 2608-2609, 2610-2611, 2612-2613, 2614-2615, 2616-2617, 2618-2619, 2620-2621, 2622-2623, 2624-2625, 2626-2627, 2628-2629, 2630-2631, 2632-2633, 2634-2635, 2636-2637, 2638-2639, 2640-2641, 2642-2643, 2644-2645, 2646-2647, 2648-2649, 2650-2651, 2652-2653, 2654-2655, 2656-2657, 2658-2659, 2660-2661, 2662-2663, 2664-2665, 2666-2667, 2668-2669, 2670-2671, 2672-2673, 2674-2675, 2676-2677, 2678-2679, 2680-2681, 2682-2683, 2684-2685, 2686-2687, 2688-2689, 2690-2691, 2692-2693,

Sample Drawn By - Mukesh Singh
Tested By - Ansh Khatke (Lab Analyst)

Only CONCERN for
Jharkhand State Pollution Control Board
Application No.153-09967
Filed Date16-11-23
Submission Date22-01-23

12. Explain the importance of the following:
 (a) Protein
 (b) Carbohydrate
 (c) Fat
 (d) Vitamin
 (e) Mineral
 (f) Water
 (g) Energy
 (h) Health
 (i) Exercise
 (j) Stress
 (k) Relaxation
 (l) Sleep
 (m) Hygiene
 (n) First Aid
 (o) First Aid Kit
 (p) First Aid Manual
 (q) First Aid Certificate
 (r) First Aid Training
 (s) First Aid Course
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 (iv)

Sanjiv Kumar Singh
Mishra and Associates

Authorized Signatory
Atmospheric Pollution
Y. Ganesh Bharati Analytical &
Environmental Engineering Laboratory



Branch Office -	Jamshedpur	Dhanbad	Hazaribag	Sakur
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Main Office : Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand
Ph : 098351-97980, 098357-85677, Email - ybaeel@gmail.com; Web - <https://ybaeel.in>



District survey Report for Minor Minerals other than sand (Stone)



ENVIROCHECK

Recognized by JSRCB
 Certified by ISO 9001:2015 & ISO 45001:2018
 Lab. No. 18/2019/10000, Dhanbad, P.O. - 826001, State - Jharkhand M-5830667043

elac

IAS

TEST REPORT

FORMAT NO.: ENVIR/FR/17

APPLICATION NO. - 15935564 DTD. 27.03.2023

Name of the Industry	: Mokim Ansari Stone Mines	Type of Industry	: Stone Boulder Mines
Address	: At + P.O. - Jangalpur, Dist. - Dhanbad	Sampling Date	: 28.03.2023 - 29.03.2023
		Period of Analysis	: 30.03.2023 - 30.03.2023
		Date of Issue	: 01.04.2023
Sampling Plan & Procedure	: ENV/SOP/01	Deviation from the Sampling Method and Plan	: No
Sample Condition	: Sealed	Sample ID No.	: 07/EC/JK/M/March/A/1
		Report No.	: 07/EC/JK/M/March/TR(A)/1/22-23

A) GENERAL INFORMATION

1. Location of Sampling : Near Entrance
2. Duration of Sampling : 24 hrs. (10:10 a.m. - 10:10 a.m.)

B) METEOROLOGICAL INFORMATION

1. Average Temperature (°C) : 29.5
2. Average Relative Humidity (%) : 56.0
3. Barometric Pressure (mm of Hg) : 756.0
4. Smell or Odour : No Remarkable Smell
5. Weather Condition : Clear sky

C) RESULTS

SL. NO.	PARAMETERS	UNIT	METHOD NO.	RESULTS	LIMIT
1.	Concentration of PM _{2.5}	µg/m ³	USEPA 1997a, 40 CFR Part 50, Appendix L: 2006	54.80	60.0
2.	Concentration of PM ₁₀	µg/m ³	IS 5182 (Part 23): 2006	86.20	100.0
3.	Concentration of SO ₂	µg/m ³	IS 5182 (Part 2): 2001	0.50	80.0
4.	Concentration of NO ₂	µg/m ³	IS 5182 (Part 6): 2006	26.20	80.0

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

Reviewed By :

(Durbadal Chakraborty, Dy. Quality Manager)

Authorised Signatory :

(Dr. Ajoy Paul, Quality Manager)

Kolkata Office : 63/B, Rasthaguru Avenue, Kolkata - 700020 [033-25792891/25497490]
 Email : envirocheck50@gmail.com
 Website : www.envirocheck.in

District survey Report for Minor Minerals other than sand (Stone)

Sabz Care
Environmental Consultancy Pvt. Ltd.

Let's start thinking about nature for tomorrow



TEST REPORT

Name of Industry	Md Mubarak Hussain & Md Mahmud Ansari Stone Mines	Report Release Date	24.07.2021
Address	Khata No.- 167, Plot No.- 377(P) 378(P) & 364(P), Mouza.- Jangalpur P.S. Govindpur, District Bhadrachal State- Jharkhand	Particular of the Plant	Stone Mines
Date of Sampling	20.07.2021 to 21.07.2021	Sample Collected by	Iftekhar Sabir & Team
Type of Sample	Suspended Dust and Gases	Sample condition	Sealed and Preserved
Sample Details	Ambient Air	Sample Drawn By	Sabz Care Lab
Report No.	SCECPL/TR/21-22/25_AR-25	Work order No.	10819433 (Date-17.07.2021)
Period of Analysis	22.07.2021 to 23.07.2021	Remarks	

A. GENERAL INFORMATION

Location of Sampling: Location-1: North-East Side of the Unit (Coordinates- 23°49'07.02"N to 86°35'25.15"E)
Location- 2: West Side of the Unit (Coordinates- 23°49'02.16"N to 86°35'18.25"E)
Location- 3: South Side of the Unit (Coordinates- 23°49'11.22"N to 86°35'21.56"E)

Duration of Sampling: 24 hours

B. METEOROLOGICAL INFORMATION

1. Average Temperature (°C) : 28.5
2. Average Relative Humidity (%) : 79.0
3. Barometric Pressure (mmBar) : 999
4. Smell or Odour : No Remarkable smell
5. Weather condition : Clear

C. TEST RESULTS

S.N.	PARAMETERS	UNIT	METHOD	RESULTS (Location-1)	RESULTS (Location-2)	RESULTS (Location-3)	Requirement (Specification as per CPCB)
1.	Particulate Matter as PM ₁₀	µg/m ³	IS 5182 (Part 24)	32.29	28.51	27.81	60 (µg/m ³)
2.	Particulate Matter as PM _{2.5}	µg/m ³	IS 5182 (Part 23)	75.53	71.52	67.35	100 (µg/m ³)
3.	Sulphur Dioxide as SO ₂	µg/m ³	IS 5187 (Part 2)	71.79	9.10	14.00	80 (µg/m ³)
4.	Nitrogen Dioxide as NO ₂	µg/m ³	IS 5187 (Part 6)	28.17	24.74	20.11	50 (µg/m ³)

Remarks: The ambient air quality with respect to Particulate matters, SO₂ and NO₂ are within the prescribed National Ambient Air Quality Standard.

- Test values are reported based on the samples received.
- Samples will be destroyed after 30 days from date of issuance of the Test Report subject to nature of preservation. Samples will be preserved as per the standard method.

(Signature)
Gyush, Manjun
Quality Manager
Authorized Signatory

ISO 9001:2015 CERTIFIED COMPANY-OHSAS 18001:2007 CERTIFIED LAB

Registered Office: Aarti Bhawan, Bawan Bighas, P.O. Madhupur, Dist-Deoghar-815553 (Jharkhand)
Contact : 09334315731, 07563194183, e-mail : sabzcare@ecopointers.com@gmail.com

District survey Report for Minor Minerals other than sand (Stone)



1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

FLOT NO-30, MANSARUVAR ENCLAVE, JHARKHAND
HATIA, BANCHI-834003 (JHARKHAND)

Website : www.ejespl.co.in

EST NO: 20448697130174 C: 0651-2290199, 9931223451



DECLARATION OF WORKING GROUP

ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 CERTIFIED

**NABL Accredited & JSPCB Certified Lab. for
Environmental Pollution Monitoring & Analysis**

TEST REPORT

Test Report No.	: ELS/RNC/2022/1315	Report Release Date	: 01.09.2022
Application No.	: 14056012	Application Date	: 22.08.2022

CUSTOMER DETAILS		SAMPLE DETAILS	
Customer Name	M/s Ankush Grover Mittal Stone Crusher	Sampling Date	26.08.2022 to 27.08.2022
Address	A/ & P/O- Sahibchappa, Dist- Bhandal	Sample Received Date	30.08.2022
		Type of Sample	Ambient Air
		Sampling Procedure	ELES/DOC/SMPLE/02
		Sample Drawn By	ELES Pvt. Ltd
Plant Status	Operational	Period of Analysis	30.08.2022 to 01.09.2022

METEOROLOGICAL INFORMATION

2	Average Temperature (°C)	: 28	3	Barometric Pressure (mmHg)	: 735
3	Relative Humidity (%)	: 60	4	Weather Condition	: Partly Cloudy

Parameters		Particulate Matter (PM10)	Fine Particulate Matter (PM2.5)	Sulphur Di-Oxide (SO ₂)	Nitrogen Di-Oxide (NO ₂)
Test Protocol		IS 5182 (P-23)	IS 5182 (P-21)	IS 5182 (P-2)	IS 5182 (P-6)
Location	Limit Unit	100 µg/m ³	60 µg/m ³	80 µg/m ³	80 µg/m ³
Near Entrance Area	11:21 – 15:26	70	35	6.9	21.9
	15:26 – 19:16			<5.0	26.6
	19:22 – 23:25	57		7.2	22.4
	23:26 – 03:18			8.1	7.6
Latitude: 23°13'50.47"N	03:24 – 07:27	65		<5.0	5.5
Longitude: 86°34'55.59"E	07:27 – 11:16			11.5	25.9
Sample ID					
FILE/RNO/PCB/AA/5255	Average	64	35	7.2	21.7
Near Office Area	11:35 – 15:44	65	32	<5.0	7.2
	15:44 – 19:52			8.8	22.1
	19:58 – 23:47	49		9.1	20.9
	23:47 – 03:56			<5.0	16.7
Latitude: 23°43'49.85"N	03:42 – 07:46	61		<5.0	7.2
Longitude: 86°24'55.00"E	07:46 – 11:52			6.9	20.8
Sample ID					
FILE/RNO/PCB/AA/5256	Average	59	32	6.4	19.2

Page 1 of 2

The Designated Person, as Test Person, is selected by the Laboratory, in the Laboratory's sole and exclusive discretion, and is responsible for the use of the product, prepared Product. The Designated Person is the Test Person referred to in the Test Report and is the person named by the Laboratory only. The information noted on the Test Report reflects the findings made by the Laboratory at the time of analysis and only and without the input of other participants. The Laboratory is responsible for the information and data provided in the report, except the information which is provided by the client. The report cannot be reproduced except in full and any part of the report, taken out of context, without prior written agreement of the Laboratory. The Report is full and complete and not to be published, advertised, used for any legal action unless a prior permission has been secured from the Management of the Laboratory. Attention is drawn to the limitation of liability, representation and disclaimer clause. Any unauthorised alteration or fabrication of the content or appearance of the Test Report is unlawful and constitutes may be prosecuted to the fullest extent of the law. All the samples are returned free of charge from the date of completion of the Test Report. The samples from Regu. body bodies are to be returned as specified. Any special test variants or other requests regarding the reports shall be done within 14 days from the date of Test Report release/issuance. After the time period stated, failure to comply will not be accepted. The entire test schedule mentioned in the Report is in strictest format. Absence/late and non-compliance with the schedule mentioned in the Report will be considered as a breach of contract. (Lab. Name)

District survey Report for Minor Minerals other than sand (Stone)



ENVIRONMENTAL LABORATORY DIVISION
 101-A, Model Building, New Delhi, India. Tel: 011-26109621

TEST REPORT

Ambient Air Quality		Sampling Details	
Reg. No.	Q/HSN/2009/AR-05	Sampling Date	15-10-2010
Client Name		Sample collected by	Sagar & Team
Sampling Date	08-09-2010	Sampling Period	18-5132
Issue for		Industry / Use	Stone Mines
M/S. Ashi Kumar Mandal (stone Mines)		Company Status	Operating
At Gurgaon, P.O. Miradoli, P.S. Nisara		Monitoring Location	
Dist. Ghaziabad, U.P.		Average Temp. (°C)	32
		Weather Condition	Sunny Cloudy
		Relative Humidity	62

Test Method	IS 5132 (part-2)	IS 5132 (part-3)	IS 5132 (part-23)
Unit	SO ₂ µg/m ³	NO _x µg/m ³	PM ₁₀ µg/m ³
Sampling Location 1: Apx. 20m SW from Working Zone			
1.5 PM - 0.5 PM	11	14	
3.15 PM - 0.5 PM	12	15	66.37
4.45 PM - 0.5 PM	14	17	
0.45 AM - 0.45 AM	17	18	55.94
0.45 AM - 0.45 AM	15	13	
0.45 AM - 0.45 PM	15	12	73.56
Average	11	14	73.56
Maximum	14	17	65.29
Sampling Location 2: Apx. 20m North from Working Zone			
1.5 PM - 0.5 PM	9	13	
3.15 PM - 0.5 PM	11	15	61.39
4.45 PM - 0.5 PM	13	16	
0.45 AM - 0.45 AM	15	18	53.66
0.45 AM - 0.45 PM	12	14	
0.45 AM - 0.5 PM	13	17	64.15
Average	11	14	74.11
Maximum	12	15	72.15
Sampling Location 3: Apx. 15m East from Working Zone			
1.5 PM - 0.5 PM	14	13	
3.15 PM - 0.5 PM	11	15	82.31
4.45 PM - 0.5 PM	12	15	
0.45 AM - 0.45 AM	14	17	71.49
0.45 AM - 0.45 PM	11	15	
0.45 PM - 0.5 PM	11	14	71.52
Average	12	14	71.52
Maximum	12	15	91.70

1. The above data were collected during the period of 18-5132.
 2. The test was conducted in accordance with the method specified in the IS 5132.
 3. The test was conducted in accordance with the method specified in the IS 5132.
 4. The test was conducted in accordance with the method specified in the IS 5132.
 5. The test was conducted in accordance with the method specified in the IS 5132.
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 9. The test was conducted in accordance with the method specified in the IS 5132.
 10. The test was conducted in accordance with the method specified in the IS 5132.

A. J. Ranga
 10/10/2010
 Analyst



Dr. K. S. Ranga
 10/10/2010
 Checked by
 Senior Analyst

Dr. K. S. Ranga
 10/10/2010
 Lab In-Charge
 Gems Projects Pvt. Ltd.

1000, La. Sakinagar, Upper Kailash, Bhopal, Madhya Pradesh, India. Phone: 0672-224004

E-mail: gemspvt@rediffmail.com, info@gemspvt.com, web@gemspvt.com, Web site: www.gemspvt.com

District survey Report for Minor Minerals other than sand (Stone)



कार्यपालक अभियंता का कार्यालय, पथ निर्माण विभाग, पथ प्रमंडल, धनबाद।

Form No. 10/11-1/2013/10/11

Form No. 10/11-1/2013/10/11

चर्चा क्र. 1/2013/8

दिनांक 30/09/2024

प्रश्न,

कार्यपालक अभियंता का
पथ निर्माण विभाग
पथ प्रमंडल, धनबाद

शेका नं.

पथ निर्माण विभाग
पथ प्रमंडल

विषय,

आवासीय क्षेत्रों में सड़कें बनाने वाले संभावित सौजन्यों एवं उसमें
उपयोग होने वाले पथ निर्माण की संभावित मात्रा का अनुमान करना के संबंध
में।

प्रस्ताव :-

आवासीय क्षेत्रों में 1000 (एनए) सड़कें - 2013/2024

नति.

महाराष्ट्र,

आवासीय क्षेत्रों में सड़कें बनाने वाले संभावित सौजन्यों एवं उसमें
उपयोग होने वाले पथ निर्माण की संभावित मात्रा का अनुमान करना के संबंध
में।

SL.NO.	PARTICULARS	QUANTITY
1	Stone boulder	1,50,000 cu
2	Stone chip	1,50,000 cu
3	Stone chip	1,50,000 cu
4	Stone chip	1,50,000 cu

सुनिश्चित एवं आवश्यक मात्रा में सड़कें बनाने के लिए

निष्कर्ष/समाप्ति

30/09/2024

कार्यपालक अभियंता

पथ निर्माण विभाग, पथ प्रमंडल, धनबाद।

30/09/2024

30/09/2024

District survey Report for Minor Minerals other than sand (Stone)



भारत सरकार
GOVERNMENT OF INDIA
केन्द्रीय लोक निर्माण विभाग

CENTRAL PUBLIC WORKS DEPARTMENT



कार्यपालक अभियंता एवं
वरिष्ठ प्रबंधक का कार्यालय
आई.एस.एम.यू. प्रोजेक्ट मंडल-1
नियर पी.के.राय कॉलेज, सरायदेला,
धनबाद, झारखंड - 826004

Office Of The Executive Engineer
and Senior Manager
ISMU Project Division-I
Near P.K.Roy College, Saraidhela,
Dhanbad, Jharkhand-826004



दूरभाष/Telephone: 0326-2999197; ई-मेल/E-Mail: ee-ismpd1@gov.in

संख्या: ROYALTY /का.अभि./आई.एस.एम.यू.-प्रो.मं.1/24/ 341 /16)

धनबाद, दिनांक 26/07/2024

सेवा में,

✓ जिला खनन पदाधिकारी
धनबाद।

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

संदर्भ : पत्रांक - 1084/एम0 धनबाद दिनांक - 23/07/2024

महाशय,

उपर्युक्त विषय एवं संबंधित पत्र के अनुपालना में इस कार्यालय के अंतर्गत आगामी पाँच वर्षों में संभावित
योजनाओं में उपयोग होने वाले ईट, पत्थर एवं बालू की संभावित मात्राओं का विवरण निम्नलिखित है:

क्रम संख्या	लघु खनिज का विवरण	संभावित मात्रा
1.	ईट	64245600 (Nos.)
2.	पत्थर	326247 (Cum)
3.	बालू	160514 (Cum)

विश्वासभाजत

एल. सुजित

कार्यपालक अभियंता एवं वरिष्ठ प्रबंधक
आई.एस.एम.यू. प्रोजेक्ट मंडल-1
के.ले.नि.वि. धनबाद।

District survey Report for Minor Minerals other than sand (Stone)



कार्यपालक अभियंता का कार्यालय ग्रामीण कार्य विभाग, कार्य प्रमण्डल, धनबाद।

दूरभाष : 9955699188 ई-मेल : rwdadhanbad@gmail.com

पत्रांक : 1199/324

दिनांक : 27/07/2024

प्रेषक

कार्यपालक अभियंता,
ग्रामीण कार्य विभाग, कार्य प्रमण्डल, धनबाद।

सीमा में

जिला स्तर पर पदाधिकारी,
धनबाद।

विषय

आगामी 05 वर्षों में संचालन किए जाने वाले योजनाओं एवं उसमें उपयोग होने वाले पत्थर खनिज की मात्रा उपलब्ध कराने के संबंध में।

प्रस्ताव

आपका पत्रांक 1084 दिनांक 23.07.2024।

प्रस्ताव

उपरोक्त विषय के संबंध में कहना है कि इस प्रमण्डल अन्तर्गत आगामी 05 वर्षों में संचालन किये जाने वाले योजनाओं एवं उसमें उपयोग होने वाले पत्थर खनिज की मात्रा निम्न प्रकार है :-

1. स्टील डिपर - 725800.00 घनमीटर
2. स्टील मेंटल - 310900.00 घनमीटर
3. कोल्डर - 255600.00 घनमीटर

सूचनाार्थ एवं आवश्यक कार्यवाई हेतु समाप्त।

दियारासवाजन

कार्यपालक अभियंता
ग्रामीण कार्य विभाग, कार्य प्रमण्डल, धनबाद।

27/07/24

27.07.24

District survey Report for Minor Minerals other than sand (Stone)

कार्यपालक अभियंता का कार्यालय,
राष्ट्रीय उच्च पथ प्रमंडल, धनबाद - 826001
(संयुक्त कार्यालय भवन परिसर)

सूचक 0326-2313339

e-mail: eenhdhanbad-jbr@nic.in

धनबाद, दिनांक 29.07.2024

संख्या 556

प्रेषक,

कार्यपालक अभियंता,
राष्ट्रीय उच्च पथ प्रमंडल,
धनबाद।

संग,

जिला खनन प्रशासक,
धनबाद।

विषय :-

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

प्रसंग :-

आगामी पत्रांक 1094/एमओ, धनबाद, दिनांक-23.07.2024

संदर्भ :-

उपरोक्त विषयक प्रस्ताविक के आशोक में सूचित करना है कि राष्ट्रीय उच्च पथ प्रमंडल, धनबाद आगामी आगामी पाँच वर्षों में संचालन किये जाने वाले योजनाओं एवं उसमें उपयोग होने वाले पत्थर खनिज की संभावित मात्रा निम्न प्रकार है:-

Stone Aggregate	Sand	Stone Dust
2500000.00 M ³	50000.00 M ³	100000.00 M ³

सूचक संख्या समित्त।

विरासतभाजन


कार्यपालक अभियंता
राष्ट्रीय उच्च पथ प्रमंडल,
धनबाद।

District survey Report for Minor Minerals other than sand (Stone)

POTENTIAL ZONE IN THE DISTRICT

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

This identification has been done on the basis of :-

- Area identified by District dept. of Geology
- Existence of running mines.
- Existence of closed mines.
- Site visit to sites for which LOI have been issued by the District Mining Office.
- Applications have been filed by prospective proponents on raiyat land.

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

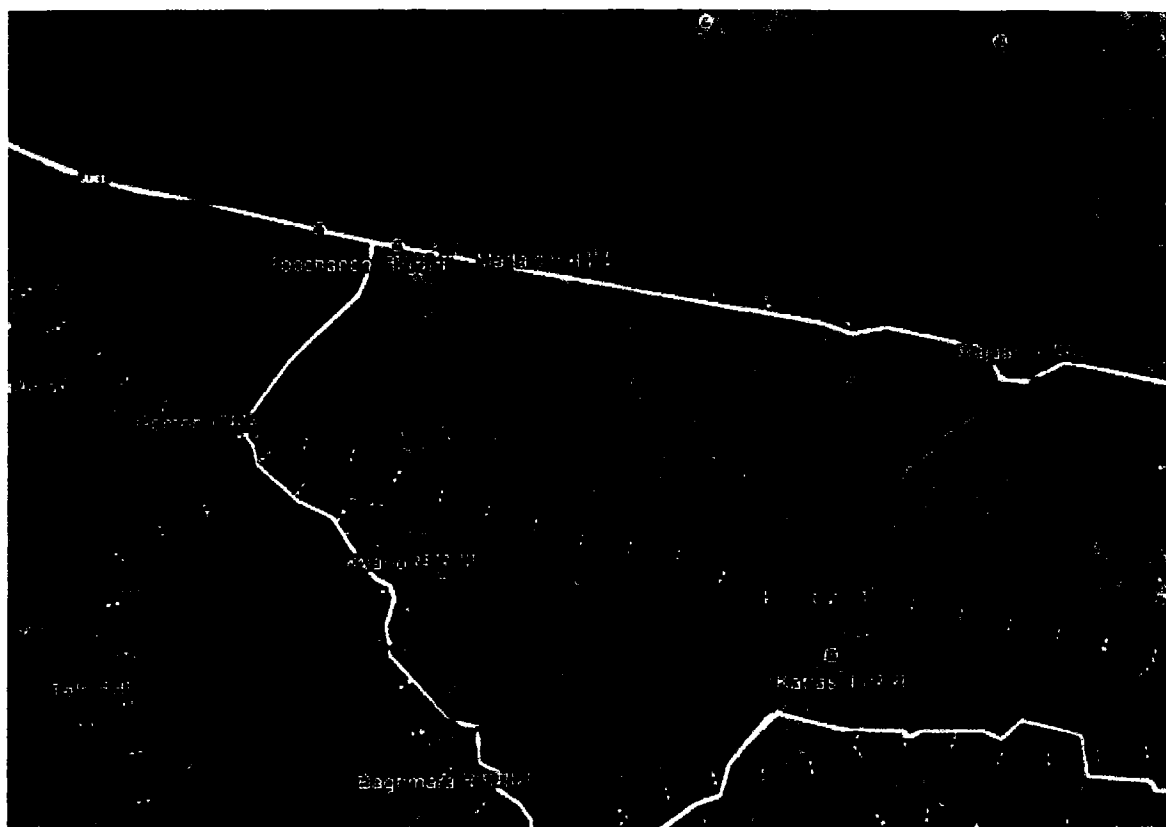
These zones indicate areas where resource is available. However, while Issuing Lol for mining, it must be ensured by the authority that mining area For which LOI is being issued must be complied with all statutory siting criteria Prescribed by competent state/central Govt. agency.

Zone 1



(Latitude & Longitude)
23°48' 2" N to 23°54' 11" N
86° 7' 30" E to 86°21' 41" E

District survey Report for Minor Minerals other than sand (Stone)



Villages Under Zone 1		
Sl.No	Village	Block
1.	JERUADIH	TOPCHANCHI
2.	SINGDIH	TOPCHANCHI
3.	AMALKURI	TOPCHANCHI
4.	CHALKARI	TOPCHANCHI
5.	BHAUNRDAHA	TOPCHANCHI
6.	TOPCHANCHI	TOPCHANCHI
7.	RAJDAHA	TOPCHANCHI
8.	CHITARPUR	TOPCHANCHI
9.	SAHUBAHAR	TOPCHANCHI
10.	KHANWADIH	TOPCHANCHI
11.	KUSUMDIHA	TOPCHANCHI
12.	MADAIDIH	TOPCHANCHI

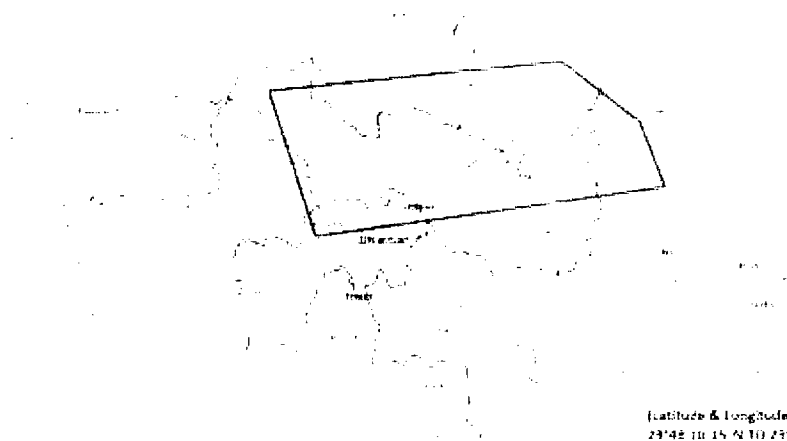
District survey Report for Minor Minerals other than sand (Stone)

13.	PIPRATANR	TOPCHANCHI
14.	GORMARA	TOPCHANCHI
15.	LEDATANR	TOPCHANCHI
16.	LOKBAD	TOPCHANCHI
17.	MORHADIH	TOPCHANCHI
18.	BAGODIH	TOPCHANCHI
19.	KHURDIH	TOPCHANCHI
20.	MADANPUR	TOPCHANCHI
21.	LACHHMANPUR	TOPCHANCHI
22.	RAJBANSPAHAR	TOPCHANCHI
23.	JARMUNAI ALIAS MURC	TOPCHANCHI
24.	DALUDIH	TOPCHANCHI
25.	DAYABANSPAHAR	TOPCHANCHI
26.	KOTALDIH	TOPCHANCHI
27.	BRAHMANDIHA	TOPCHANCHI
28.	KANERDIH	TOPCHANCHI
29.	SIRAMPUR	TOPCHANCHI
30.	DUBRAJPUR	TOPCHANCHI
31.	FATEHPUR ALIAS KHANTDIH	TOPCHANCHI
32.	MACHHAIDAHA	TOPCHANCHI
33.	HARIHARPUR	TOPCHANCHI
34.	DANDUBHANGATH	TOPCHANCHI
35.	KORKOTA	TOPCHANCHI
36.	CHAURAPATI	TOPCHANCHI
37.	RATANPUR	TOPCHANCHI
38.	BHUIANCHITRO	TOPCHANCHI
39.	RAGHUNATHPUR	TOPCHANCHI
40.	LALUDIH	TOPCHANCHI
41.	GUNGHASA	TOPCHANCHI
42.	KURAMU	TOPCHANCHI
43.	MAHTHADIH	TOPCHANCHI

District survey Report for Minor Minerals other than sand (Stone)

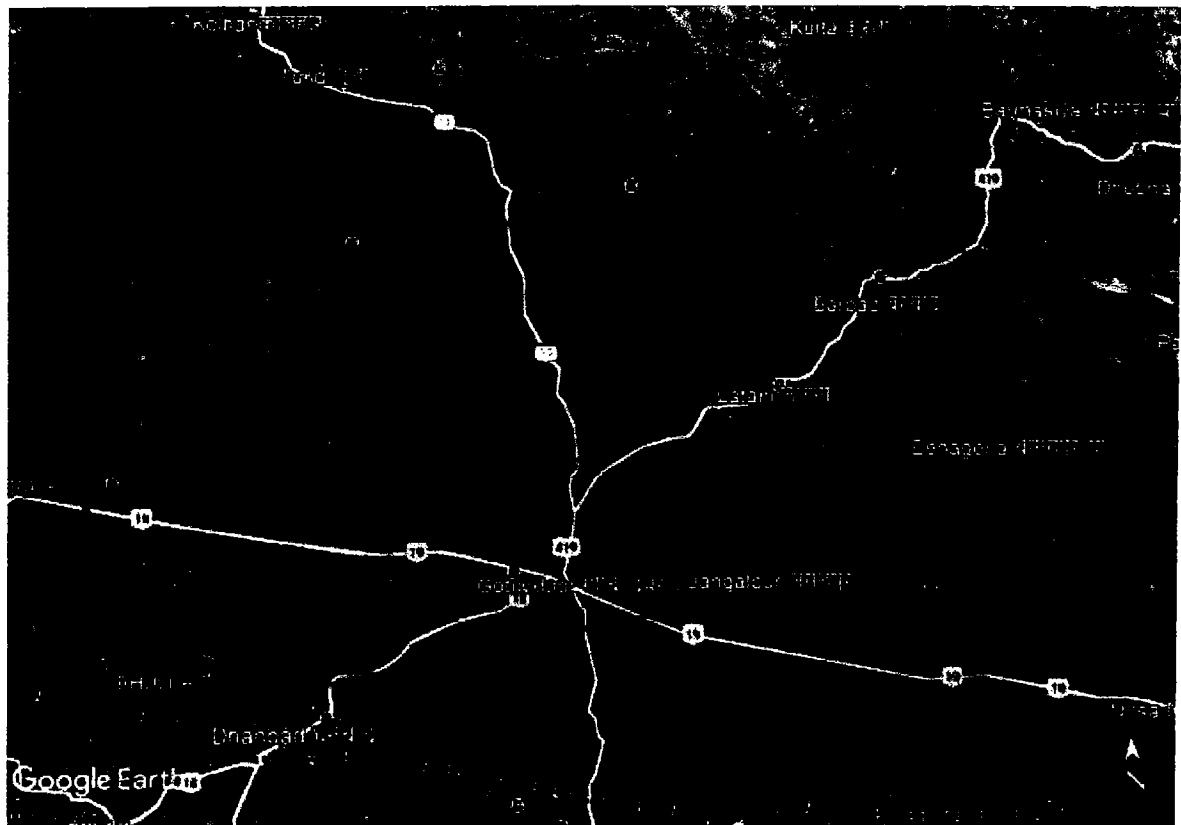
44.	RAMA KUNDA	TOPCHANCHI
45.	GANDHAWADIH	TOPCHANCHI
46.	CHAITA	TOPCHANCHI
47.	KHERABERA	TOPCHANCHI
48.	TANTRI	TOPCHANCHI
49.	KARAMTANR	TOPCHANCHI
50.	KALAJOR	TOPCHANCHI
51.	CHALMURARI	TOPCHANCHI
52.	BARWADIH	TOPCHANCHI
53.	MOHANPUR	TOPCHANCHI
54.	KARNAGORA	TOPCHANCHI
55.	MANPUR	TOPCHANCHI
56.	BHIKHNIDIH	TOPCHANCHI
57.	MATARI	TOPCHANCHI

Zone 2



(Latitude & Longitude)
23°48' 10.15" N TO 23°58' 59.52" N
86°20' 52.47" E TO 86°42' 39.61" E

District survey Report for Minor Minerals other than sand (Stone)



Villages Under Zone 2		
Sl.No.	Village	Block
1	JAMUA	GOVINDPUR
2	GORGA	GOVINDPUR
3	KAJHUA ALIAS GHOSKO	GOVINDPUR
4	SAPANPUR	GOVINDPUR
5	POAPUR	GOVINDPUR
6	JAIPUR	GOVINDPUR
7	CHUTIARO	GOVINDPUR
8	GOPALPUR	GOVINDPUR
9	NICHITPUR	GOVINDPUR
10	MARICHO	GOVINDPUR
11	AMBADI	GOVINDPUR

District survey Report for Minor Minerals other than sand (Stone)

12	RADHANAGAR	GOVINDPUR
13	PANREKENALI	GOVINDPUR
14	DAMUMURA	GOVINDPUR
15	MADHUGORA	GOVINDPUR
16	DUMARIATANR	GOVINDPUR
17	BIRAJPUR	GOVINDPUR
18	MAJHILADI	GOVINDPUR
19	BARMESHIA	GOVINDPUR
20	NAYADI	TUNDI
21	KARMATANR	TUNDI
22	TARAJORI	GOVINDPUR
23	RATANPUR	GOVINDPUR
24	SAPARO	TUNDI
25	NAWATANR	GOVINDPUR
26	MORPAHA	GOVINDPUR
27	SONARIA	GOVINDPUR
28	GHANUADI	GOVINDPUR
29	PATHIKDI	GOVINDPUR
30	RAJABHITA	TUNDI
31	TARTANR	TUNDI
32	KUKUARTOPA	TUNDI
33	ASANBANI	GOVINDPUR
34	SADHUBAD	GOVINDPUR
35	AMLA TANR	GOVINDPUR
36	KHANRARI	GOVINDPUR
37	SHITAL KANALI	GOVINDPUR
38	KESHKA	TUNDI
39	LUSADI	BAGHMARA
40	KHARNI	GOVINDPUR
41	PALAI	GOVINDPUR
42	HARIADI	GOVINDPUR

District survey Report for Minor Minerals other than sand (Stone)

43	KULBERA	GOVINDPUR
44	JADABPUR	GOVINDPUR
45	SABHARI	GOVINDPUR
46	MURRADI	GOVINDPUR
47	JAINAGAR	GOVINDPUR
48	BAKASHPURA	GOVINDPUR
49	LATBEDHIBARWADI	GOVINDPUR
50	KASITANR	GOVINDPUR
51	KADYAN	TUNDI
52	KONARTANR	GOVINDPUR
53	DOMANPUR	BAGHMARA
54	PANCHRUKHI	BAGHMARA
55	BELTANR	GOVINDPUR
56	UDAYPUR	GOVINDPUR
57	KARMAGORA	GOVINDPUR
58	PHUPHUADI	GOVINDPUR
59	BARAJAMUA	GOVINDPUR
60	SIMLATANR	GOVINDPUR
61	MURRADI	GOVINDPUR
62	GOBINDADIH ALIAS BH	BAGHMARA
63	CHHOTPICHHRI	GOVINDPUR
64	BARPICHHRI KARIATANR	GOVINDPUR
65	DAMKARABARWA	GOVINDPUR
66	PATAMAHUL	BAGHMARA
67	DHANJORI	BAGHMARA
68	KURMIDI	GOVINDPUR
69	SUSNILEWA	GOVINDPUR
70	BHELATANR	GOVINDPUR
71	ASANDABAR	TUNDI
72	OJHADI	TUNDI
73	MARRO	GOVINDPUR

District survey Report for Minor Minerals other than sand (Stone)

74	PAHARPUR	GOVINDPUR
75	HIRAPUR	GOVINDPUR
76	PHULRAIDIH	GOVINDPUR
77	DHAWATANR	GOVINDPUR
78	GAURANGDI	GOVINDPUR
79	BHITIA	GOVINDPUR
80	KANCHANPUR	GOVINDPUR
81	DHEKJORA	GOVINDPUR
82	SUNDARPAHARI	GOVINDPUR
83	CHENGADAHA	GOVINDPUR
84	KASHITANR	TUNDI
85	LACHHUARAI	TUNDI
86	BANSHJORIA	TUNDI
87	KANAIDI	TUNDI
88	KOTALDI	TUNDI
89	MAHARAJGANJ	TUNDI
90	PIPRATANR	TUNDI
91	LAKSHANPUR	TUNDI
92	KHESMI	TUNDI
93	BEHERA	TUNDI
94	KHAKUDI	TUNDI
95	BADALPUR	TUNDI
96	BANDARCHUA	TUNDI
97	CHURIATANR	TUNDI
98	HIRAPUR	TUNDI
99	KAMARDI	TUNDI
100	MOHNAD	GOVINDPUR
101	SATUA TANR	GOVINDPUR
102	TILAI TANR	GOVINDPUR
103	HETBHAJUDI	GOVINDPUR
104	SAHURPURA	GOVINDPUR

District survey Report for Minor Minerals other than sand (Stone)

105	SUGNA	GOVINDPUR
106	RAMPUR	TUNDI
107	NAWATANR ALIAS	TUNDI
108	LAHERDI	GOVINDPUR
109	SHIBPUR	GOVINDPUR
110	MACHAMAHUL	GOVINDPUR
111	SARKARDIH	GOVINDPUR
112	PATHARIA	GOVINDPUR
113	MOHANPUR	GOVINDPUR
114	JANGALPUR	GOVINDPUR
115	METAYALA	GOVINDPUR
116	NERO	GOVINDPUR
117	ASANA	GOVINDPUR
118	BARDAHI	GOVINDPUR
119	SINGRAIDI	TUNDI
120	GARGA	NIRSA
121	RAGHUNATHPUR	TUNDI
122	SHAHRAD	GOVINDPUR
123	JODHADIH	GOVINDPUR
124	BHALPAHARI	NIRSA
125	HIKIMARAL	NIRSA
126	GUNDUBA	NIRSA
127	DUMARJOR	NIRSA
128	PIALSOLA	TUNDI
129	MAHLIDI	TUNDI
130	MAYRANAWATANR	GOVINDPUR
131	KESHIDI	GOVINDPUR
132	BISHUADI	GOVINDPUR
133	MAKRATANR	GOVINDPUR
134	KUSMATANR	GOVINDPUR
135	BARIO	GOVINDPUR

District survey Report for Minor Minerals other than sand (Stone)

136	TILABANI	GOVINDPUR
137	KURUA	GOVINDPUR
138	BAROMESIA	GOVINDPUR
139	SAHARJORI	GOVINDPUR
140	TUMADAHA	GOVINDPUR
141	AMLATANR	GOVINDPUR
142	KANRRA	GOVINDPUR
143	KURUMDAHA ALIAS BAG	DHANBAD
144	JIALGARA	GOVINDPUR
145	PANRUA	TUNDI
146	PANRRABEJRA	NIRSA
147	DHANARANGI	TUNDI
148	BARKETNI	TUNDI
149	GOLMARA	TUNDI
150	RUPAN	TUNDI
151	GARBHADI	TUNDI
152	JAMDIHA	TUNDI
153	PHULPAHARI	TUNDI
154	KAPLI	TUNDI
155	TALBAHAL	TUNDI
156	BARTOR	TUNDI
157	GOPINATHDI	TUNDI
158	NAUDIHA	TUNDI
159	LAHABERA	TUNDI
160	KANDUATANR	TUNDI
161	BENAGARIA	NIRSA
162	TALBERYA	NIRSA
163	KANATANR	NIRSA
164	BIJAYPUR	NIRSA
165	AANGULKATA	NIRSA
166	CHAINPUR	NIRSA

District survey Report for Minor Minerals other than sand (Stone)

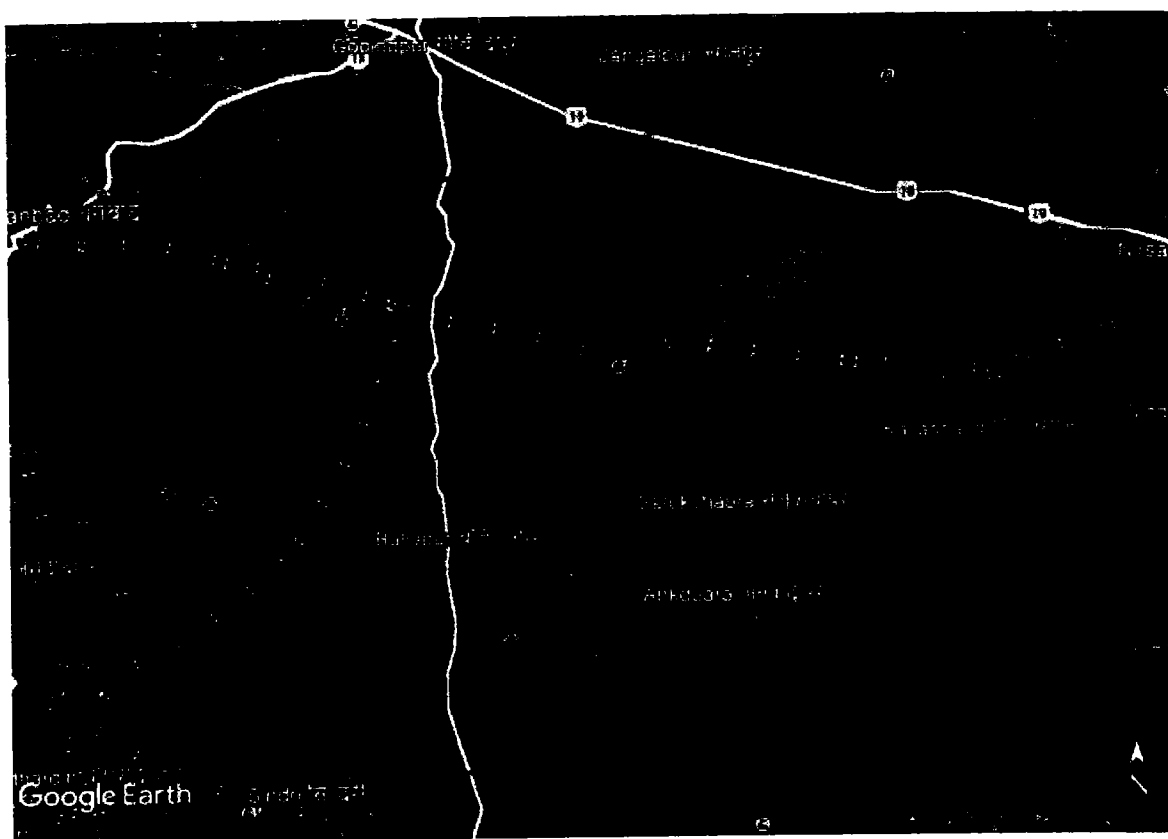
167	CHARGHARA	NIRSA
168	BHAGABAND	NIRSA
169	RAMGAMETA	NIRSA
170	MADHRAYDI	NIRSA
171	GUGITAPA	NIRSA
172	POLKARA	NIRSA
173	MARADI	NIRSA
174	BARBAD	TUNDI
176	KHILKANALI	GOVINDPUR
177	SABALPUR	GOVINDPUR
178	PARUKI	GOVINDPUR
179	BIRGAON	GOVINDPUR

Zone 3



Latitude & Longitude:
23°33'12.00"N to 23°49'54.27"N
86°21'26.70"E to 86°40'24.75"E

District survey Report for Minor Minerals other than sand (Stone)



Villages Under Zone 3		
Sl.No.	Village	Block
1	TOLA DEULI ALIAS BA	GOVINDPUR
2	MURGABANI	GOVINDPUR
3	GAHIRA	GOVINDPUR
4	PHAPHUADI	GOVINDPUR
5	KHARIABAD	GOVINDPUR
6	DEULI	GOVINDPUR
7	MORANGA	GOVINDPUR
8	BHATANR	GOVINDPUR
9	DUMDUMI	GOVINDPUR
10	GARGARO	GOVINDPUR
11	DALDALI	GOVINDPUR
12	KALADABAR	GOVINDPUR

District survey Report for Minor Minerals other than sand (Stone)

13	BARBA	GOVINDPUR
14	JAMBAD	GOVINDPUR
15	SANBAID	NIRSA
16	BARUIGARA	NIRSA
17	RAMKANALI	NIRSA
18	TETULIA	NIRSA
19	BHURSA	NIRSA
20	JARUADI	NIRSA
21	BARUIGARA	NIRSA
22	LUADI	NIRSA
23	GHORAMURGA	GOVINDPUR
24	PARASI	GOVINDPUR
25	LAKHYABAD	NIRSA
26	JHIRKA	NIRSA
27	BELKUPA	NIRSA
28	DUBHI	NIRSA
29	FATEPUR	NIRSA
30	KATAJANI	NIRSA
31	BILI	NIRSA
32	KALUBATHAN	NIRSA
33	JITPUR	NIRSA
34	ELAKEND	NIRSA
35	KUSHIYARA	NIRSA
36	KAYRABANK	NIRSA
37	PIRRAHAT	NIRSA
38	LAKSHIPUR	NIRSA
39	BHURSA	NIRSA
40	KANADI	NIRSA
41	KALIASOL	NIRSA
42	SIMULDAN	NIRSA
43	JAYPUR	NIRSA

District survey Report for Minor Minerals other than sand (Stone)

75	LIPANIA	BALIYAPUR
76	BANDARCHUA	BALIYAPUR
77	KHARAM	BALIYAPUR
78	KUSMATANR	BALIYAPUR
79	MAKUNDA	BALIYAPUR
80	AMJHAR	BALIYAPUR
81	BHIKHROJPUR ALIAS B	BALIYAPUR
82	DANIDEHA	BALIYAPUR
83	MOKOBRAHMOTTAR	BALIYAPUR
84	BARMURI	BALIYAPUR
85	GOLMARA	BALIYAPUR
86	PARGHA	BALIYAPUR
87	NICHETPUR	BALIYAPUR
88	FAKIRADIH	BALIYAPUR
89	SINDURPUR	BALIYAPUR
90	PAHARPUR	BALIYAPUR
91	BALIAPUR	BALIYAPUR
92	BELGARIA	BALIYAPUR
93	SABAIGARHA	BALIYAPUR
94	PALANI	BALIYAPUR
95	MOHANPUR ALIAS NUTA	BALIYAPUR
96	PRADHAN KHUNTA	BALIYAPUR
97	BIJAYDIH	BALIYAPUR
98	DHOKHRA	BALIYAPUR
99	KARMATANR	BALIYAPUR
100	GOPINATHDIH ALIAS B	BALIYAPUR
101	DHANGI	BALIYAPUR
102	JAGDIS	BALIYAPUR
103	SAMAI DIH	GOVINDPUR
104	KISTOPUR	GOVINDPUR
105	BASTIPUR	GOVINDPUR

District survey Report for Minor Minerals other than sand (Stone)

106	BAHADURPUR	GOVINDPUR
107	JARGARI	GOVINDPUR
108	BAGSUMA	GOVINDPUR
109	CHAK CHIROBAD	GOVINDPUR
110	DOMANDIH	GOVINDPUR
111	KINUDI	GOVINDPUR
112	KALITANR	BALIYAPUR
113	BARA BAGMARA	GOVINDPUR
114	MAHUBANI	GOVINDPUR
115	NARODIH ALIAS NAROH	GOVINDPUR
116	KUIRI	NIRSA
117	BAMUNDIHA	BALIYAPUR
118	CHAULDHUA	BALIYAPUR
119	SAPTA	BALIYAPUR
120	JOLHADI	NIRSA
121	BAR AMBANA	NIRSA
122	DOLABAR	BALIYAPUR
123	MOKOMAHATRAN	BALIYAPUR
124	SURJYADI	NIRSA
125	CHHOT AMBANA	NIRSA
126	JHUNIA PAHARI	NIRSA

Note - Verification of Areas/Villages identified as the potential zone before Grant of Concession from the respective DFO(s) will be done to ensure that it does not fall within the ESZ.







District survey Report for Minor Minerals other than sand (Stone)



Jangalpur, Jharkhand, India
Unnamed Road, Jangalpur, Jharkhand 828109, India
Lat 23.832294°
Long 86.573776°
14/08/24 01:13 PM GMT +05:30

GPS Map Camera

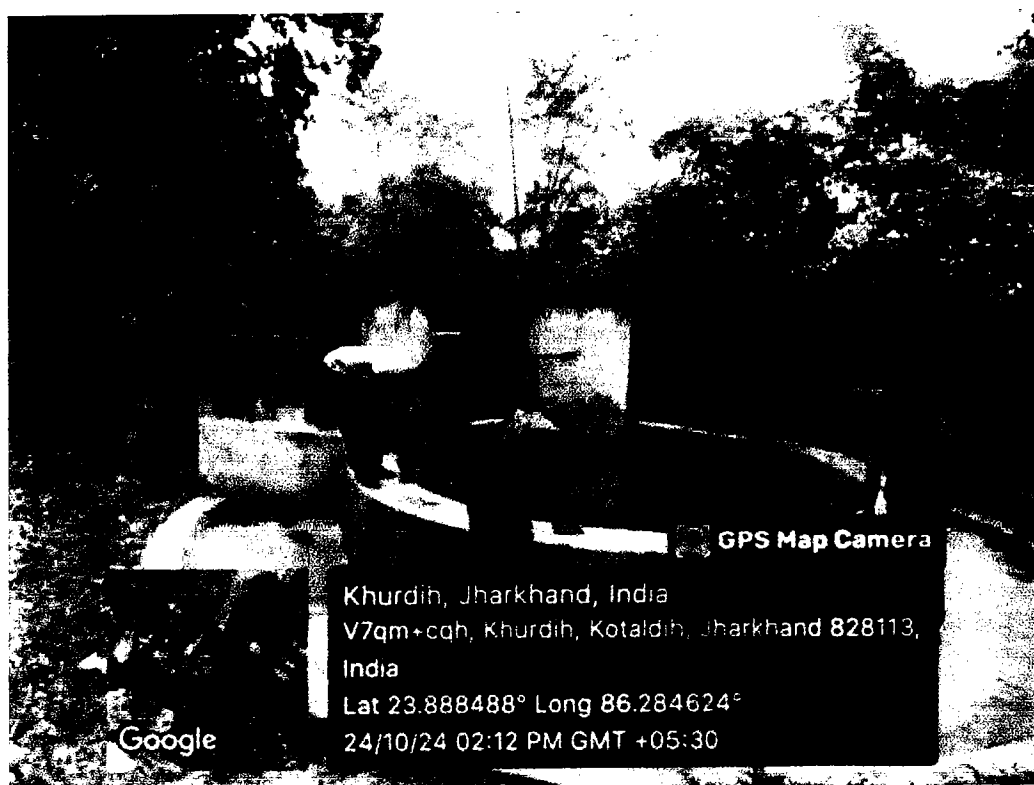


Google

Garga, Jharkhand, India
Unnamed Road, Garga, Jharkhand 828109, India
Lat 23.903088°
Long 86.653394°
13/08/24 05:15 PM GMT +05:30

GPS Map Camera

District survey Report for Minor Minerals other than sand (Stone)







CHAPTER- II

FLORA AND FAUNA

CHAPTER II A- Forest Flora

1.2A.1 TREES

Descriptive details of commonly found tree species in the Division along with their floristic composition, taxonomical features and economic importance in life of the people is elucidated below.

Common name: Sal • Hindi: Sal, Sakhua,

Botanical name: *Shorea robusta*

Family: *Dipterocarpaceae* (Sal family)

Sal is moderate to slow growing tree, which can grow up to 30-35 m tall, with a trunk diameter of up to 2-2.5 m. The bark of the young tree is smooth with a few long deep and vertical furrows. The leaves are ovate-oblong, 10-25 cm long and 5-15 cm broad. In wetter areas, it is evergreen; in drier areas, it is dry-season deciduous, shedding most of the leaves in between February to April, leafing out again in April and May. The sal flowers, whitish in color, appear in early summer. These are borne in raceme-like panicles in leaf axils, covered with white pubescence. Sal is one of the most important sources of hardwood timber in India, with hard, coarse-grained wood that is light in colour when freshly cut, and becoming dark brown with exposure. The wood is resinous and durable, and is sought after for construction, although not well suited to planning and polishing. Sal trees are found from Burma in the East, to Assam, Bengal, Nepal, the Deccan Plateau, going up to the foothills of the Shivaliks on the left bank of the Yamuna river.



Season of Flowering: April-May.

Common name: Teak, Sagaun (Hindi),

Botanical name: *Tectona grandis*

Family: *Verbenaceae*

A very popular timber tree, teak is native to India and Burma to Java. It is a deciduous tree attaining a very large size. However, in cities it might be seen on the roadside as a medium sized tree with large leaves. Teak is considered



District survey Report for Minor Minerals other than sand (Stone)

a good quality wood for furniture. Leaves of the tree are opposite, 30-60 cm long and 15-30 cm broad. The flowers come in large numbers in lax clusters at the end of branches. They are white and rather small - about 6 mm across. The fruit is about 15 mm across, spongy, enclosed in the persistent calyx. Flowers appear in monsoon, fruit ripens in winter. From November to January, the tree is leafless, feeder root system also sends down many anchor roots which penetrate for several feet. The tree is long-lived, some specimens being known to be 300 years old and still fruiting. Nearly evergreen, alternate leaves are borne mainly in rosettes at the tips of the branches and numerous twigs from which they droop like ribbons on slender petioles 1 to 4 in long. Hundreds and even as many as 3,000 to 4,000 small, yellowish or reddish flowers, 25% to 98% male, the rest hermaphroditic, are borne in profuse, showy, erect, pyramidal, branched clusters 2 1/2 to 15 1/2 in high. There is great variation in the form, size, color and quality of the fruits. They may be nearly round, oval, ovoid-oblong, or somewhat kidney-shaped, often with a break at the apex, and are usually more or less lop-sided.

Common name: Neem • Hindi: Neem

Botanical name: *Azadirachta indica*

Family: *Meliaceae* (Neem family)

Synonyms: *Melia azadirachta*, *Antelaea azadirachta*



Neem is native to India and Burma. It is the state tree of Andhra Pradesh. Neem is a fast growing tree that can reach a height of 15-20 m, rarely to 35-40 m. It is evergreen but under severe drought it may shed most or nearly all of its leaves. The branches are wide spread. The fairly dense crown is roundish or oval and may reach the diameter of 15-20 m in old, free-standing specimens. The trunk is relatively short, straight and may reach a diameter of 1.2 m. The bark is hard, fissured or scaly, and whitish-grey to reddish-brown. The sapwood is greyish-white and the heartwood reddish when first exposed to the air becoming reddish-brown after exposure. The root system consists of a strong taproot and well developed lateral roots. The alternate, pinnate leaves are 20-40 cm long, with 20-31 medium to dark green leaflets about 3-8 cm long. The shape of mature leaflets is more or less asymmetric and their margins are serrated. The flowers (white and fragrant) are arranged axillary, normally more-or-less drooping panicles which are up to 25 cm long. The inflorescences, which branch up to the third degree, bear 150-250 flowers. An individual flower is 5-6 mm long and 8-11 mm wide. The fruit is a glabrous olive-like drupe which varies in shape from elongate oval to nearly roundish, and when ripe are 1.4-2.8 x 1.0-1.5 cm. But Neem is far more than a tough tree that grows vigorously in difficult sites. Among its many benefits, the one that is most unusual and immediately practical is the control of farm and household pests. Some entomologists now conclude that neem has such remarkable powers for controlling insects that it will usher in a new era in safe, natural pesticides

District survey Report for Minor Minerals other than sand (Stone)

Common name: Chiraonji Tree (**Hindi:** char, Piar)

Botanical name: *Buchanania lanzan*

Family: *Anacardiaceae* (Cashew family)

Synonyms: *Buchanania latifolia*, *Chironjia sapida*

Chironji Tree is a medium-sized deciduous tree, growing to about 50 ft tall. It bears fruits each containing a single seed, which is popular as an edible nut, known as *chironji*. It is common in our forests mostly in eroded ravine lands. It avoids waterlogged areas, but occurs locally in clay soils. It can be identified by the dark grey crocodile bark with red blaze. A good species for afforesting bare hill slopes. It has tickly leathery leaves which are broadly oblong, with blunt tip and rounded base. Leaves have 10-20 pairs of straight, parallel veins. Pyramidal panicles are greenish while flowers appear in early spring. Fruits ripen from April to May and remain on the tree for quite a long time. **Flowering:** January-March.

Medicinal uses: The roots are acrid, astringent, cooling, depurative and constipating; and are useful in treatment of diarrhoea. Leaves are used in the treatment of skin diseases. Fruits are used in treating cough and asthma.

Common name: Flame of the Forest
(**Hindi:** Palash, Dhak, Tesu)

Botanical name: *Butea monosperma*

Family: *Fabaceae* (pca family)

Synonyms: *Butea frondosa*, *Erythrina monosperma*, *Plaso monosperma*



Native to India, Flame of the Forest is a medium sized tree, growing from 20 to 40 feet high, and the trunk is usually crooked and twisted with irregular branches and rough, grey bark. The leaves are pinnate, with an 8-16 cm petiole and three leaflets, each leaflet 10-20 cm long. A Hindi phrase ("*Dhaak ke teen paat*") comes from the prominent three leaflets of this tree. It is seen in all its ugliness in December and January when most of the leaves fall: but from January to March it truly becomes a tree of flame, a riot of orange and vermillion flowers covering the entire crown. These flowers, which are scentless, are massed along the ends of the stalks--dark velvety green like the cup-shaped calices--and the brilliance of the stiff, bright flowers is shown off to perfection by this deep, contrasting colour. Each flower consists of five petals comprising one standard, two smaller wings and a very curved beak-shaped keel. It is this keel which gives it the name of Parrot Tree. In olden days, the flowers of *Tesu* were used to make color for the festival of *Holi*. In Manipur, there is an interesting cultural

District survey Report for Minor Minerals other than sand (Stone)

use of the wood of this tree with beautiful flowers- when a member of the Meitei community dies and, for some reasons, his body cannot be found, the wood of this tree is cremated in place of the body. A postal stamp was issued by the Indian Postal Department to commemorate this flower.

Common name: Silk Cotton Tree, Kapok Tree • Hindi: Shalmali,

Botanical name: *Bombax ceiba*

Family: *Bombacaceae* (baobab family)

Synonyms: *Salmalia malabarica*

Silk cotton tree is a type of native cotton tree with large red flowers. The genus name *Salmalia* is derived from the Sanskrit name *shaalmali*. Silk cotton trees comprise eight species in the genus *Bombax*, native to India, tropical southern Asia, northern Australia and tropical Africa. Semul trees bear beautiful red-colored flowers during January to March. The phenomenon paints the whole landscape in an enchanting red hue. The fruit, the size of a ping-pong ball, on maturity appears during March and April. These are full of cotton-like fibrous stuff. It is for the fiber that villagers gather the semul fruit and extract the cotton substance called "kopak". This substance is used for filling economically priced pillows, quilts, sofas etc. The fruit is cooked and eaten and also pickled. Semul is quite a fast growing tree and can attain a girth of 2 to 3 m, and height about 30 m, in nearly 50 years or so. Its wood, when sawn fresh, is white in color. However, with exposure and passage of time it grows darkish gray. It is as light as 10 to 12 kg, per cubic foot. It is easy to work but not durable anywhere other than under water. So it is popular for construction work, but is very good and prized for manufacture of plywood, match boxes and sticks, scabbards, patterns, moulds, etc. Also for making canoes and light duty boats and or other structures required under water. *Bombax* species are used as food plants by the larvae of some Lepidoptera species including the leaf-miner *Bucculatrix crateracma* which feeds exclusively on *Bombax ceiba*.

Botanical name: *Ceiba insignis*

Family: *Bombacaceae* (baobab family)

Synonyms: *Chorisia insignis*

Like its more popular cousin, the pink Floss Silk Tree, this one has a green and variably spiny trunk. This species almost always has a very spiny trunk, while you can find many *C. speciosas* with smooth green trunks. The main visible difference between two are the showy white flowers, with a golden throat. This deciduous tropical from Brazil and Argentina is mostly seen as a small tree. It has pale green leaves palmately divided into 5-7 pointed leaflets. After



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blooming, pear shaped fruits appear which have a silky floss on the seeds, hence the name.

Common name: Arjun (**Hindi:** Arjun)

Botanical name: *Terminalia arjuna*

Family: *Combretaceae* (Rangoon creeper family)

In Indian mythology, Arjun is supposed to be Sita's favourite tree. Native to India, the tree attracts lot of attention because of its association with mythology and its many uses. Arjuna is a large, evergreen tree, with a spreading crown and drooping branches. Grows up to 25 m height, and the bark is grey and smooth. Leaves are sub-opposite, 5-14 × 2-4.5 cm in size, oblong or elliptic oblong. Flowers small, white, and occur on long hanging racemes. Fruit is 2.3-3.5 cm long, fibrous woody, glabrous and has five hard wings, striated with numerous curved veins. Flowering time of the tree is April-July, in Indian conditions.

Medicinal uses: Every part of the tree has useful medicinal properties. Arjun holds a reputed position in both Ayurvedic and Yunani Systems of medicine. According to Ayurveda it is alexiteric, styptic, tonic, anthelmintic, and useful in fractures, ulcers, heart diseases, biliousness, urinary discharges, asthma, tumors, leucoderma, anaemia, excessive perspiration etc. According to Yunani system of medicine, it is used both externally and internally in gleet and urinary discharges.

Common name: Chebulic Myrobalan, Myrobalan (**Hindi:** Harra, Harad)

Botanical name: *Terminalia chebula*

Family: *Combretaceae* (Rangoon creeper family)

Chebolic Myrobalan is a flowering evergreen tree called in English the Myrobalan or sometimes the Chebolic Myrobalan. It is native to the Indian subcontinent and the adjacent areas such as Pakistan, Nepal and the south-west of China stretching as far south as Kerala or even Sri Lanka where it is called Aralu. This tree yields smallish, ribbed and nut-like fruits which are picked up when still green and then pickled, boiled with a little added sugar in their own syrup or used in preserves or concoctions. The seed of the fruit, which has an elliptical shape, is an abrasive pit enveloped by a fleshy and firm pulp. Chebolic Myrobalan can reach heights of 20 meters.

Medicinal uses: Chebolic Myrobalan is highly regarded as the 'king of medicines' in the Ayur-Vedic Medicine. It is reputed to cure blindness and it is believed to inhibit the growth of the malignant tumors. It is alleged to also be a powerful detox agent.

Common name: Baheda, Belliric Myrobalan, Bastard myrobalan, Beach almond, Bedda nut tree • **Hindi:** Bahera,

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Botanical name: *Terminalia bellirica*

Family: *Combretaceae* (Rangoon creeper family)

Synonyms: *Myrobalanus bellirica*

Baheda is a tall handsome tree, with characteristic bark, 12-50 m tall. Leaves are alternately arranged or fascicled at the end of branches, elliptic or elliptic obovate, leathery, dotted, entire. Leaf tip is narrow- pointed or rounded. Leaves are 8-20 cm long, 7.5-15 cm wide, on stalks 2.15 cm long. Flowers arise in spikes in leaf axils, 5-15 cm long. Flowers are greenish yellow, 5-6 mm across, stalkless, upper flowers of the spike are male, lower flowers are bisexual. Stamens are 3-4 mm long. Fruit is obovoid 1.5-2.5 cm in diameter, covered with minute pale pubescence, stone very thick, indistinctly 5 angled.

Medicinal uses: In traditional Indian Ayurvedic medicine, Baheda is known as "Bibhitaki;" in its fruit form it is used in the popular Indian herbal rasayana treatment triphala. This species is used by some tribes in the Indian subcontinent for its mind-altering qualities - they smoke dried kernels. Too much of this can cause nausea and vomiting.

Common name: Amla, Indian gooseberry •
(Hindi: Aonla)

Botanical name: *Phyllanthus emblica*

Family: *Phyllanthaceae* (Amla family)

Synonyms: *Embllica officinalis*



Amla is a small to medium sized deciduous tree, reaching 8 to 18 m in height, which is known for its edible fruit of the same name. The tree has crooked trunk and spreading branches. The leaves are simple, nearly stalkless and closely set along slender branchlets. The leaves are often mistaken for leaflets of pinnate leaves. The genus name *Phyllanthus* is derived from Greek words meaning leaf-flower, an allusion to the apparent bearing of flowers on the leaves. Amla flowers are small, greenish-yellow or pinkish. The flowers have six segments, but no real petals. Male and female flowers are carried separately on the same branch. The fruit is nearly spherical, light greenish yellow, quite smooth and hard on appearance, with 6 vertical stripes or furrows. Ripening in autumn, the berries are harvested by hand after climbing to upper branches bearing the fruits. The taste of Amla is sour, bitter and astringent, and is quite fibrous. In India, it is common to eat gooseberries with salt and water to make the sour fruits palatable.

Amla is an important constituent of Trifala, the combination of three fruits – the other two being Harra and Baheda. It is considered to be most important ant ayurvedic formulations capable of complete renovation of the digestive system.

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Common name: Amaltas, Golden shower tree, Indian Laburnum (**Hindi:** Amaltas)

Botanical name: *Cassia fistula*

Family: *Caesalpiniaceae* (Gulmohar family)

This native of India, commonly known as *Amaltaas*, is one of the most beautiful of all tropical trees when it sheds its leaves and bursts into a mass of long, grape-bunches like yellow gold flowers. A tropical ornamental tree with a trunk consisting of hard reddish wood, growing up to 40 feet tall. The wood is hard and heavy; it is used for cabinet, inlay work, etc. It has showy racemes, up to 2" long, with bright, yellow, fragrant flowers. These flowers are attractive to bees and butterflies. The fruits are dark-brown cylindrical pods, also 2' long, which also hold the flattish, brown seeds (up to 100 in one pod). These seeds are in cells, each containing a single seed. A postal stamp was issued by the Indian Postal Department to commemorate this tree.

Medicinal uses: The sweet blackish pulp of the seedpod is used as a mild laxative.

Common name: Anjan (**Hindi:** Anjan)

Botanical name: *Hardwickia binata*

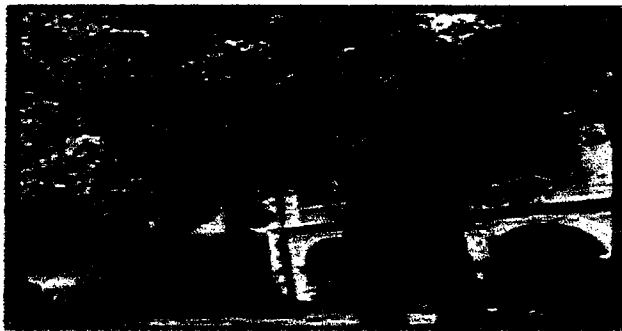
Family: *Caesalpiniaceae* (Gulmohar family)

Anjan is a medium or large deciduous ornamental tree. It is a native of India. Graceful, drooping slender branches; crown conical in early life, becoming broader later. Bark of saplings almost silvery white and smooth, gradually changing as the tree gets older to dark grey and rough with irregular vertical cracks, 1.2-2.5 cm thick, exfoliating in narrow flakes. In isolated situations, or on poor soils, the tree tends to branch low down and produce a short bole, but when grown in a fairly crowded crop on favourable soil it produces a long, straight, cylindrical bole with an elevated crown. Leaves small, 2-6 cm long by 2-3 cm wide, alternate, pinnate, almost kidney shaped and grayish-green. Flowers small, pale yellowish-green in axillary and terminal lax paniced racemes. The pod flat and samaroid, 5-7.6 x 1-1.5 cm, oblong lanceolate, coriaceous, narrowed at both ends, with parallel longitudinal veins, containing 1 seed near the apex.

Common name: Gum Arabic, Babool
(**Hindi:** Kikar, Babul)

Botanical name: *Acacia nilotica* subsp. *indica*

Family: *Mimosaceae* (Touch-me-not family)



Babool is a medium to large tree, native to West Asia that can reach a height of 10 m, with an average of 4-7 m in height. The crown

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is somewhat flattened or rounded, with a moderate density. The branches have a tendency to droop downwards if the crown is roundish. The bark is blackish grey or dark brown in mature trees and deeply grooved, with longitudinal fissures. The young branches are smooth and grey to brown in colour. The young twigs are covered in short hairs. Paired, slender, straight spines grow from a single base and sometimes curve backwards, are up to 80 mm long and whitish but often reddish brown in colour. The leaves are twice compound, i.e. they consist of 5-11 feather-like pairs of pinnae; each pinnae is further divided into 7-25 pairs of small, elliptic leaflets that can be bottle to bright green in colour. Flowers are bright yellow, numerous, in fluffy globular heads 1.2 cm diameter, usually in clusters of 2 to 6, on individual pubescent axillary stalks 1.5 to 2 cm long.

Babool barks possess astringent properties and considered to be good for teeth. Many ayurvedic companies have introduced tooth paste by its name. The barks are also used for tanning of hides in tanneries. It is not very good timber, but used for making spokes in the wheels of bullock carts and low caste house construction. The babool trees also yield very good gum.

Common name: Flame Tree, Royal Poinciana (**Hindi:** Gulmohar)

Botanical name: *Delonix regia*

Family: *Caesalpinaceae* (Gulmohar family)

Discovered in the early 19th century in its native Madagascar by botanist Wensel Bojer, Gulmohar is a flamboyant tree in flower - some say the world's most colorful tree. For several weeks in spring and summer it is covered with exuberant clusters of flame-red flowers, 4-5 in across. Even up close the individual flowers are striking: they have four spoon shaped spreading scarlet or orange-red petals about 3 in long, and one upright slightly larger petal (the standard) which is marked with yellow and white. The delicate, fern-like leaves are composed of small individual leaflets, which fold up at the onset of dusk. Gulmohar gets 30-40 ft tall, but its elegant wide-spreading umbrella-like canopy can be wider than its height. Gulmohar is naturalized in India and is widely cultivated as a street tree.

Common name: White Bark Acacia, Brewers acacia (**Hindi:** Ronjh, safed babul, safeda)

Botanical name: *Acacia leucophloea*

Family: *Mimosaceae* (Touch-me-not family)

Synonyms: *Mimosa leucophloea*



White Bark Acacia is a large thorny tree attaining a height of 35 m and a diameter at breast height of 100 cm. The stout trunk is

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divided into several wide branches. Open-grown specimens have a characteristic wide umbrella-like crown. Bark is white to yellowish gray, smooth, on old trees becoming black and rough. Leaves double compound, with 4-13 pairs of pinnae, each with 5-30 pairs of leaflets. Circular glands found on the rachis below the junction of paired-pinnae. The feathery green foliage offers a strong contrast to the light-coloured bark. Spines 2-5 mm long, at the base of leaves. Flowers conspicuous, light-yellow to cream in colour, in pendunculate glomerules aggregated in panicles, 5-merous, corolla 1.2-2 mm long, at the end of branches or in leaf axils. Pods yellow, green or brown in colour, flat and fairly straight, 10-20 cm long, 5-10 mm wide, containing 10-20 smooth, oblong seeds, dark brown in colour, 6 x 4 mm in size.

Common name: Banyan tree (**Hindi:** Barh, Bargad)

Botanical name: *Ficus bengalensis*

Family: *Moraceae* (mulberry family)

Barh or Banyan, a remarkable tree of India and tropical Africa sends down from its branches great numbers of shoots, which take root and become new trunks. A single tree thus may spread over a large area and look like a small forest. This tree is considered to be sacred in some places in India. A specimen in the Calcutta botanical garden is more than 100 years old. It has a main trunk 13 feet (4 m) in diameter, 230 trunks as large as oak trees, and more than 3,000 smaller ones. The largest banyan tree known is on the island of Sri Lanka. It has 350 large trunks and over 3,000 small ones. The banyan often grows to a height of over 21 meters and lives through many ages. Perhaps the most amazing part of this extraordinary tree is its flower. What we think of as the fruit is really a hollow, flower-bearing structure called a cyconia. The inside it is lined with hundreds of male and female flowers. The males carry pollen and the females bear seeds. Various parts of this plant are considered medicinal. The bark of this therapeutically valuable tree is attributed with tonic, astringent, cooling and diuretic properties in Ayurveda. A postal stamp was issued by the Indian Postal Department to commemorate this tree.

Common name: Gum Arabic Tree, Gum Acacia, Gum Senegal Tree •

Hindi: Kumattha, Kumatiyo, Kumat, Kumatio

Botanical name: *Acacia senegal*

Family: *Mimosaceae* (Touch-me-not family)

Synonyms: *Acacia verec*

Gum Arabic Tree is a small deciduous acacia tree, native to semi-desert regions of Sub-Saharan Africa, Pakistan, and northwestern India. It grows to a height of 5-12m, with a trunk up to 30 cm in diameter. Thorns are placed just below the nodes, either in threes

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up to 7 mm long, with the middle one hooked downwards and the lateral ones curved upwards, or solitary with the laterals absent. Leaves are double-compound, up to 2.5 cm long. Leaf-axis is finely downy with 2 glands; pinnae are 6-20 pairs; leaflets are small, 7-25 pairs, rigid, leathery, smooth, linear to elliptic-oblong, ciliate on margins, pale glaucous-green, tip blunt to somewhat pointed. Flowers are borne in not very dense spikes 5-10 cm long, carried on stalks 0.7-2 cm long. Flowers are normally produced with the leaves. Sepal cup is bell-shaped, glabrous, deeply toothed. Flowers are white to yellowish, fragrant, stalkless. Pod is straight or slightly curved, retrap-shaped, 7.5-18 cm long, 2.5 cm wide, thin, light brown or gray, papery or woody, firm, smooth. The tree produces gum arabic, which is used as a food additive, in crafts, and as a cosmetic. The gum is drained from cuts in the bark, and an individual tree will yield 200 to 300 grams. Seventy percent of the world's gum arabic is produced in Sudan. Flowering: January - March.

Medicinal uses: The gum is used for soothing mucous membranes of the intestine and to treat inflamed skin. It is also reportedly used as for its astringent properties, to treat bleeding, bronchitis, diarrhea, gonorrhea, leprosy, typhoid fever and upper respiratory tract infections.

Common name: Earleaf Acacia, Ear-pod Wattle, Papuan Wattle, Auri, Northern Black Wattle

Botanical name: *Acacia auriculiformis*

Family: *Mimosaceae* (touch-me-not family)

Earleaf Acacia is an evergreen, unarmed tree to 15 m (50 ft) tall, with compact spread, often multi-stemmed; young growth glaucous. Leaves alternate, simple, reduced to phyllodes (flattened leaf stalks), these blade-like, slightly curved, 5-8 in long. Flowers in loose, yellow-orange spikes at leaf axils or in clusters of spikes at stem tips; flowers mimosa-like, with numerous free stamens. Fruit a flat, oblong pod, twisted at maturity. It's roots are very strong and can break through concrete, ruining sidewalks and driveways and pushing out other vegetation. Used for the cultivation of the lac insect in India. This plant is native to Southeast Asia, Indonesia, Papua New Guinea and Australia.

Common name: Peepal, Bo tree, bodhi tree, holy tree, scared fig • Hindi, Pipal

Botanical name: *Ficus religiosa*

Family: *Moraceae* (Mulberry family)

Peepal is unrivalled for its antiquity and religious significance. No other tree is claimed to have such long life - one in Sri Lanka, said to have been planted in the year 288 B.C., still lives and flourishes. The Prince Siddhartha is known to have sat in meditation under a Bo tree and there found enlightenment from which time he became



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known as the Buddha. So, from then on the tree was sacred to Buddhists. Hindus associate the tree with the three gods Brahma, Vishnu and Shiva, Vishnu being reputed to have been born under a Peepul, which is therefore Vishnu himself in the form of a tree. A grand peepal tree is a perfect shade tree, and village meetings are often conducted under a peepal tree. It is a large deciduous tree with a pale stem often appearing fluted on account of the numerous roots which have fused with the stem. Leaves leathery 4-8 inches long by 3-5 inches wide, somewhat egg-shaped or rounded, tailed at the tip and heart-shaped at the base, or sometimes rounded. The young leaves are frequently pink, change to copper and finally to green. Flowers minute within the receptacle. Fruit is a fig. The peepal tree is considered to be power house of oxygen and worshipped in Hindu traditions. Being huge in size it is the favourite of birds for shelter and food.

Common name: Eucalyptus, Safeda

Botanical name: *Eucalyptus spp.*

Family: *Myrtaceae* (Myrtle Family)

Eucalyptus is a diverse genus of trees (rarely shrubs), the members of which dominate the tree flora of Australia. All eucalypts are evergreen, although some species have deciduous bark. On warm days vapourised eucalyptus oil rises above the bush to create the characteristic distant blue haze of the Australian landscape. Eucalyptus oil is highly flammable (trees have been known to explode) and bush fires can travel easily through the oil-rich air of the tree crowns. Eucalypts exhibit leaf dimorphism. When young, the leaves are opposite and often roundish and occasionally without petiole. When several years old, the leaves become quite slender and with long petiole. Eucalyptus flowers typically vary from white, cream, pink, yellow, or red depending upon the species. The flower petals and stamens are fused into a cap called an operculum — as the flower opens the cap is shed. The flowers appear as a fuzzy, cream-yellow ball of stamens. After flowering, hard, woody seed pods develop and are often key to identifying the plant species. Typically, these seed heads remain on the tree until released by fire or the plant's death.

The Eucalyptus is used in house construction and medium quality furniture items.

Medicinal uses: Eucalyptus oil has medicinal properties - the well known Vicks vaporub is made out of eucalyptus oil. Traditionally, eucalyptus oil is known to be a good medicine for relieving nasal congestion in cold.

Common name: Java plum, Jamun • Hindi: Jamun

Botanical name: *Syzygium cumini*

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Family: *Myrtaceae* (Bottlebrush family)

The evergreen jamun plant is originally from Indonesia and India. Indian mythology describes the Indian subcontinent as an island, 'situated in the centre of the world', called Jambudweep. Because of a majority of Jamun (black berry) trees, this island was named as Jambudweep. An evergreen tropical tree, 50 to 100 ft. tall, with oblong opposite leaves that are smooth, glossy and having a terpentine smell. Jamun has fragrant white flowers in branched clusters at stem tips and purplish-black oval edible berries. The leaves are antibacterial, and are used for strengthening the teeth and gums. The fruit and seeds are sweet, acrid, sour, tonic, and cooling, and are used in diabetics, diarrhoea and ringworm. The bark is astringent, sweet sour, diuretic, digestive and anthelmintic. The jamun can grow in areas where problem of water logging is acute. Its wood is also capable of remaining unaffected in submerged condition for decades and do not rot.

Common name: Black Rosewood, blackwood tree, Bombay blackwood, East Indian rosewood, Indian blackwood, Indian palisandre, Indian rosewood, Java palisandre, Malabar rosewood, Roseta rosewood

Hindi: kala-shisham,

Botanical name: *Dalbergia latifolia*

Family: *Fabaceae* (Pea family)

Synonyms: *Amerimnon latifolium*

Black Rosewood is predominantly a single-stemmed deciduous tree with a dome shaped crown of lush green foliage. The tree can become 20-40 m tall, with a trunk diameter of 1.5-2 m. The bark is gray, thin with irregular short cracks, peeling in fibrous longitudinal flakes. Alternately arranged leaves are odd-pinnate with 5-7 unequal sized leaflets originating from the same rachis. Leaflets are broadly blunt-tipped, dark green above and pale below. White flowers are borne in panicles, 0.5-1 cm long, in leaf axils. The brown pods are oblong-lancelike, and pointed at both ends. They contain 1-4 smooth brown seeds and do not open at maturity. The species name *latifolia* means broad-leaved. Its wood is excellent material and used for making high quality household furniture items.

Common name: Kadam • Hindi: Kadamb

Botanical name: *Neolamarckia cadamba*

Family: *Rubiaceae* (Coffee family)

Synonyms: *Anthocephalus cadamba*, *Anthocephalus indicus*

In Hindu mythology, Kadam was the favourite tree of Krishna. Tree up to 45 m tall, without branches for more than 25 m. Diameter up to 100 (-160) cm but normally less;

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sometimes with buttresses. The crown is umbrellashaped and the branches are characteristically arranged in tiers. Leaves simple, 13-32 cm long. Flowers orange, small, in dense, globose heads. They appear like solid, hairy orange balls. The fruits are small capsules, packed closely together to form a fleshy, yellow or orange coloured infructescence containing approx. 8,000 seeds. The small capsules split into four parts releasing the seed at maturity. There are approximately 20,000 seeds per gram. It is believed to have medicinal value in curing astringent, ulcer, digestive, diarrhoea, expectorant, fever, vomiting. A postal stamp was issued by the Indian Postal Department to commemorate this tree.

Common name: Bel, Beli fruit, Bengal quince, Stone apple, Wood apple • Hindi: Bel

Botanical name: *Aegle marmelos*

Family: *Rutaceae* (Citrus family)

Synonyms: *Crateva marmelos*, *Aegle marmelos* var. *mahurensis*

Bel is a fruit-bearing tree which is cultivated throughout India, as well as in Sri Lanka, northern Malaya, Java and in the Philippines. The tree, which is the only species in the genus *Aegle*, grows up to 15 meters tall and bears thorns and fragrant flowers. Leaves are alternate, pale green, trifoliate; terminal leaflet, 5.7 cm long, 2.8 cm broad, having a long petiole; the two lateral leaflets, almost sessile, 4.1 cm long, 2.2 cm wide, ovate to lanceolate having reticulate pinnate venation; petiole, 3.2 cm long. Flowers, greenish white, sweetly scented, bisexual, stalked; stalk, 8 mm long; diameter of a fully open flower is 3 cm; flowers, borne in lateral panicles of about 10 flowers, arising from the leaf axils. It has a woody-skinned, smooth fruit 5-15 cm in diameter. The skin of some forms of the fruit is so hard it must be cracked open with a hammer. It has numerous seeds, which are densely covered with fibrous hairs and are embedded in a thick, gluey, aromatic pulp. The fruit is eaten fresh or dried. The juice is strained and sweetened to make a drink similar to lemonade, and is also used in making Sharbat. is a sacred tree, dedicated to Lord Shiva. The offering of bael leaves is a compulsory ritual of the worship of Lord Shiva in the hills. This importance seems largely due to its medicinal properties. All parts of this tree, viz., root, leaf, trunk, fruit and seed, are used for curing one human ailment or another.

Common name: Indian Butter Tree • Hindi: Mahua

Botanical name: *Madhuca longifolia* var. *latifolia*

Family: *Sapotaceae* (mahua family)

Synonyms: *Bassia latifolia*, *Illipe latifolia*, *Madhuca indica*, *Madhuca latifolia*

Mohwa is one of the most important of Indian forest trees, not because it may possess valuable timber - and it is hardly ever cut for this purpose - but because of its delicious and nutritive flowers. It is a tree of abundant growth and, to the people of Central India,

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it provides their most important article of food as the flowers can be stored almost indefinitely. It is large and deciduous with a thick, grey bark, vertically cracked and wrinkled. Most of the leaves fall from February to April, and during that time the musky-scented flowers appear. They hang in close bunches of a dozen or so from the end of the gnarled, grey branchlets. Actually the word 'hang' is incorrect because, when a bunch is inverted, the flower stalks are sufficiently rigid to maintain their position. These stalks are green or pink and furry, about 5 cm. long. The plum-coloured calyx is also furry and divides into four or five lobes; within them lies the globular corolla, thick, juicy and creamy white. Through small eyelet holes at the top, the yellow anthers can be seen. The stamens are very short and adhere to the inner surface of the corolla; the pistil is a long, protruding green tongue. It is at night that the tree blooms and at dawn each short-lived flower falls to the ground. A couple of months after the flowering period the fruit opens. They are fleshy, green berries, quite large and containing from one to four shiny, brown seeds.

Medicinal uses: Medicinally the tree is very valuable. The bark is used to cure leprosy and to heal wounds, the flowers are prepared to relieve coughs, biliousness and heart-trouble while the fruit is given in cases of consumption and blood diseases.

Common name: Ceylon oak, Lac tree, (**Gum lac tree** • Hindi: Kusum)

Botanical name: *Schleichera oleosa*

Family: *Sapindaceae* (soapberry family)

Kusum is a beautiful tree with a broad, shady crown, found widespread in Tropical Himalayas (Punjab to Nepal), India, Ceylon, Burma, Thailand, Indo-China, Malaysia. This tree is mostly noticed because of its bright red leaves when they are new. In India this happens around March. The leaves are pinnate, with each leaf having 2-4 leaflets. Flowers are tiny, occurring in short dense yellow clusters. The flowers are hardly noticeable. The fruit is about the size of a small plum.

Common name: Cluster fig • Hindi: Goolar

Botanical name: *Ficus racemosa*

Family: *Moraceae* (Mulberry family)

Synonyms: *Ficus glomerata*, *Ficus lucescens*, *Ficus racemosa* var. *elongata*

Goolar is an attractive fig tree with a crooked trunk and a spreading crown. Unlike the banyan, it has no aerial roots. The most distinctive aspect of this tree is the red, furry figs in short clusters, which grow directly out of the trunk of the tree. Those looking for the flower of goolar should know that the fig is actually a compartment carrying hundreds of flowers. One might wonder how these flowers enclosed in a ball are pollinated. The flowers are pollinated by very small wasps that crawl through the

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opening in search of a suitable place to reproduce (lay eggs) Without this pollinator service fig trees cannot reproduce by seed. In turn, the flowers provide a safe haven and nourishment for the next generation of wasps. Goolar is a tree commonly found in cities and towns. It has evergreen leaves, if it is close to a water source. Otherwise it sheds its leaves in January. Figs have been traditionally used by children to play. Thin sticks can be joined by inserting them in goolar figs to make interesting shapes. The fig tree is very important from wild life point of view and its fruits are the favorites of birds. It is home to a variety of birds, rodents, lizards and insects.

Common name: Gamhar • Hindi: Gamhar

Botanical name: *Gmelina arborea*

Family: *Verbenaceae* (Verbena family)

Gamhar is a beautiful fast growing deciduous tree occurring naturally throughout greater part of India up to 1500 m. It is a fast growing tree, which though grows on different localities and prefers moist fertile valleys with 750-4500 mm rainfall. It does not thrive on ill drained soils and remains stunted on dry, sandy or poor soils; drought also reduces it to a shrubby form. The tree attains moderate to large height up to 30 m with girth of 1.2 to 4.5 m with a clear bole of 9-15 m. It is a treat to see the gamhar tree standing straight with clear bole having branches on top and thick foliage forming a conical crown on the top of the tall stem. Bark light grey coloured exfoliating in light coloured patches when old, blaze thick, a chlorophyll layer just under the outer bark, pale yellow white inside. Flowering takes place during February to April when the tree is more or less leafless whereas fruiting starts from May onwards up to June. Flowers occur in narrow branching clusters at the end of branches. The yellow flower, tinged with brown, is trumpet shaped, 3-4 cm long. The trumpets flare open into a gaping mouth with 5 distinct lobes.

Medicinal uses: The root and bark of *Gmelina arborea* are stomachic, galactagogue laxative and anthelmintic; improve appetite, useful in hallucination, piles, abdominal pains, burning sensations, fevers, 'tridosha' and urinary discharge. Leaf paste is applied to relieve headache and juice is used as wash for ulcers. Flowers are sweet, cooling, bitter, acrid and astringent. They are useful in leprosy and blood diseases. In Ayurveda it has been observed that Gamhar fruit is acrid, sour, bitter, sweet, cooling, diuretic tonic, aphrodisiac, alternative astringent to the bowels, promote growth of hairs, useful in 'vata', thirst, anaemia, leprosy, ulcers and vaginal discharge. The plant is recommended in combination with other drugs for the treatment of snake - bite and scorpion- sting. In snake - bite a decoction of the root and bark is given internally.

Common name: Indian jujube, Indian plum • Hindi: Ber

Botanical name: *Ziziphus mauritiana*

Family: *Rhamnaceae* (Ber family)

District survey Report for Minor Minerals other than sand (Stone)

Ber is a small or medium sized subtropical tree, popular for its small berry like fruit. It grows wild in forests and also on wastelands throughout the mid-hills up to elevations of 1,400 metres. The small fruits are liked by children as well as by adults. A small spreading tree, with drooping branches; height, 5 to 8 metres; trunk girth, 85 cm; bark, rough, gray or dull black, irregularly cracked, covered with a thick layer of green moss in the case of older trees and, thus, looking green. Leaves, ovate, petiolate (petiole, 5 mm long), having very fine serration, 3.8 cm long, 2.9 cm broad, dark green and shining from above, white tomentose from beneath. The flowers are yellowish and born in clusters along the leaf axils and this is shortly followed by the rounded fruit which can be anywhere from three-quarters of an inch to an inch-and-a-half in size. Trees are easily propagated by seeds, however, seedlings take two to three years to start fruit production.

COMPOSITION AND CONDITIN OF THE CROP :

The forests of the Dhanbad Forest Division confirm broadly to Champion and Seth's (1968) sub group 5 - B, namely northern Tropical dry deciduous forest. According to the same classification, they fall in the following sub - types :-

<u>Sub - Types</u>	<u>Sub type no.</u>
1. Dry Peninsular sal forest	----- 5/BC 1
2. Northern dry mixed deciduous forest	----- 5B/C 2
3. Dry deciduous scrub	----- 5B/DS 1
4. Dry bamboo brakes	----- 5B/E 9.

Dry Peninsular sal forest :- This type of forest is found on the northern aspects and in valley of Topchanchi pahar and from plain to undulating land lying on the north and north eastern slopes of Tundi pahar. Patches of pure sal crop in sapling to young pole stage and found also. The forests as a whole, are very poor in timber content. Sal trees above pole stage are few and far in between. Large size trees in the remote hills belong only to the inferior miscellaneous species like lac hosts, Kusum and Mahua. The plain forest on the north east and east of Tundi pahar contain almost pure crop of sal saplings and poles. The forests are moderately stocked and are interspersed with open patches where soil erosion is common.

The main associates of Sal (*Shorea robusta*) are Kend (*Diospyros melanoxylon*), asan (*Terminalia tomentosa*) Mahua (*Maduca indica*) Dhaura (*Anogeissus latifolia*), Piar (*Buchnanian lanzan*) Sidha (*Lagerstromia paraviflora*), bahera (*Terminalia belerica*), Karam (*Adina cordifolia*), Bagal (*Cochlosperemum religiosum*), etc. Palas (*Butea Monosperma*) and Khair (*Acacia catechu*) are associates on heavy soils and eroded sites respectively. But Khair does no occur in large number anywhere in the Division. Bamboo is found on the hills thinly distributed and its incidence is inversely proportional to that of sal. The undergrowth consists mainly of dubkhoraiya (*Holarrhena antidysentrica*) and Kando (*Carissa ooaca*). The ground is generally bare.

District survey Report for Minor Minerals other than sand (Stone)

Climbers occur in moist valley bottoms or in sheltered valleys. The commonest climbers are *Bauhinia valii*, *Combretum decandrum*, *Millettia auriculata* and *Spatholobus roxburghii*.

The density of the crop.

Natural regeneration of sal is almost absent coppice regeneration is satisfactory but is not allowed to grow unless rigid protection against grazing and illicit cutting is provided.

Northern dry mixed deciduous forest : The drier aspects of Topchanchi and Tundi hills and other scattered hills in the division do not carry sal but contain mixed species. This type also occurs on the shallow soils and degraded sites on the plains.

The main species occurring are Dhaura (*Anogeissus latifolia*), Asan (*Terminalia tomentosa*) kend (*Dispyros melanoxylon*) Piar (*Buchnanania lanzan*), Sidha (*Lagerstomia parviflor*), (*Lannea coromandelica*), Kala (*Bridelia retusa*), Piasal (*Pterocarpus marsupium*), gamhar (*Gmelina arborea*), siris (*Albizzia oderatissima*), Galgal (*Cochlospermum religiosum*), bahera (*Terminalia belerica*), parasi (*Cleistanthus collimus*), bel (*Angle marmelos*), palas (*Butea monosperma*) etc. Semal (*Bombax malabaricum*), Khair (*Acacia Catechu*), Mahua (*Madhuca indica*), are found scattered in the forests. Salai (*Boswellia serrata*)_ one of the common species in dry mixed deciduous forest in other parts of Bihar is almost absent here except a few poor specimens in Tundi pahar. The miscellaneous forests in the catchment area of the Rajdaha reservoir (Jharia Water Board) which are being preserved for ensuring the life and function of the reservoir are of good quality in density and growth. Elsewhere forests are thin and poor in quality. Good quality bamboo forests are found mixed with the miscellaneous_forests.

The undergrowth consists of (*Holorrhena antidysenterica*), ber (*Zyzyphus mauratiana*), Kanoda (*Carissa opaca*), harsingar (*Nyctanthens arborstilis*), etc. Lantana spp. Is spreading fast in many area and has occupied the lower hill slopes. The crop in this type is generally open, the average density is 02. to 0.4 . Average dia is 10-15 cm. And average height is 6 to 8 meters. The ground remain bare for most of the year. Natural regeneration is moderate. Coppice regeneration is not allowed to grow due to heavy incidence of grazing and fire, except in remote areas.

Dry deciduous scrub :

In mining area near habitation and in easily accessible forests where unsystematic exploitation and unrestricted hacking have been practised for years, the forests have been degraded to scrub growth. Extremely xerophytic condition have set in and species like Lantana spp, ber,_bantulshi_(*Hyptissusveolens*) and combretum have occupied the ground, this type of forest is found on the foot of Tundi and Topchanchi hill and covers the scattered hills in different parts of the division particularly in Topchanchi Range.

District survey Report for Minor Minerals other than sand (Stone)

Dry bamboo brakes : Natural bamboo (*Dendracalamus strictus*) occurs in Topchanchi and Tundi areas. Topchanchi hills from the principal bamboo area both in extent and quality. The bamboo of the Jharia water board forests is best in the division as far as quality is concerned. At places it occurs more or less pure in dense formation. Extensive good bamboo clumps are located in Raja-banspahar, Gansi sikander, Daludih. Here the bamboo grows to 8 – 10 cm dia, and about 15 – 18 meters in height.

Bamboo is also found scattered on steep rocky slopes and in dry places in rest of the division but these do not form regular brakes. Due to maltreatment the growth is bushy and malformed. Bamboo has also been raised artificially in different plantation areas of the division, for example in Brindaban, Burhinor plantation, where good quality bamboo has been raised.

Blanks :

Blanks both large and small are fairly common and are widely scattered both in hills and plains. Some of the blanks are totally bare while some have dense cover of bantulsi and lantna. Bushy growth of species like *Diospyros melanoxylon* and *Butea monosperma* with scattered trees of Mahua and Sema except some places like *Lukaiya* may occasionally be met with.

Human interference has played an extremely influential part in the determination of the composition of forests. It is the single factor which has considerably affected the existing vegetation of this division for the last so many decades. It is undoubtedly reasonable that climatic topographic and edaphic condition also played their roles were subordinated to biotic factors. Greater part of these forest belonged to private owners. These were mercilessly exploited and mismanaged by them due to lack of technical knowledge. In addition to the private owner their was unrestricted exploitation by local miners, hacking by the local people and unrestricted grazing by cattle. Combined effected of these resulted in continuous maltreatment and over- exploitation of the crop for a long perios resulting in consequent deterioration. The vegetation in most part of the division has degraded to high pollarded stumps of Dhanbad range. The socio – economic condition is such that a large section of local population depends almost entirely on forest produce for their livelihood. This is partly met with by committing theft within the forest areas.

Due to factors stated above, there is gradual reduction in the quality and density of forest property. The quality and composition of the crop varies considerably due variations of soil and maltreatments. In Topchanchi and Tundi zone which form the compact blocks of forests high stumps, pollard shoots and few inferior species were noticed which indicate maltreatment of the vegetation by local people. In Dhanbad area, natural vegetation has been practically ousted. Only few patches continue to survive on much reduced size and shape. Here species like *Lantana dudhkoriya*, *harsingar*, *ber* etc. frequent owing to the dry condition created by maltreatment. Palas may also be seen in patches.

District survey Report for Minor Minerals other than sand (Stone)

Plantation: Extensive plantation have been raised in this division since 1953. Areas have been treated under soil conservation -cum afforestation scheme with funds provided by the D.V.C. Species raised and established are _bamboo_(Dendrocalamus strictus), Acacia auriculiformis, Cassia siamea, Dalbergia sisoo, Eucalyptus, Gmelina arborea, spp. Ailanthus excels, Khair (Acacia catechu), Pongamia pinnata, Karanj,ber neem bakain, teak have also been raise in patches.

Out of the planted species Acacia auriculiformis, Bamboo, Cassia siamea, Dalbergia sisoo, Ailanthus, Albizzia lebbeck and Albizzia procera, karaj and khair are doing well in sites. Bamboo and Sisoo are in good form over deep loam soils both in plain as well as on hill slopes. On eroded patches only khair, where ever tried has responded well.

Damage by illicit cutting and grazing is heavy wherever fencing has been removed. One blanket order of the Govt. in 1967 to open all 5 yrs. old plantation areas to grazing can be said to have been the main cause for destruction of very well established plantations.

14. INJURIES TO WHICH THE CROP IS LIABLE

The forest of Dhanbad Division are liable to following injuries.

- A. By man (i) Illicit cutting (ii) Encroachments
- B. By animal (i) Domestic cattle (ii) Wild animal.
- C. By Fire
- D. By Insects
- E. By winds and hailstorms
- F. By forest
- G. By climbers and parasiters
- H. By Drought.

50. Illicit Cutting :

Man by and large continues to be the most potent cause for destruction of natural forest and plantations through indiscriminate cutting. Illicit cuttings for pole and timber is common throughout the division. It is heavy in areas adjoining the thickly populated towns, collieries, and along G.T. Road, Dhanbad, Baliapur, Jharia, Govindpur, Topchachi and Tundi are the main places where timber is in great demand due to large scale construction. So they attract illicit cutters not only from the adjoining areas but from distant places also. Due to increase in mining activities, human settlements and construction of roads in almost every area within the Division, the protection of forests has become very difficult.

In addition to this the construction activities have also increased in the village and the standard of living of villagers has improved resulting in high demand for forest produce.

District survey Report for Minor Minerals other than sand (Stone)

The demand for fuel wood and agricultural implements has also increased tremendously due to increase in population. Illicit cutting of fuel wood provides easy employment to local villagers, who find readymade market at every 5th k.m. in the Division. The grand Trunk Road which passes through the Division is another factor which have put tremendous pressure on the forest and has resulted in depletion of the growing stock.

Dhanbad Division has the privilege of harbouring two major dams namely Maithon and Panchet of the Damodar Valley Corporation. Due to illicit cutting of forests and other vegetation in the catchment area the life of these dams has been considerably reduced due to heavy siltation. Therefore D.V.C. authorities are also working in the field of soil and moisture conservation.

ENCROACHMENTS

There have been large scale clearances of the forest in the fifties and sixties with a view to obtain agricultural field. Later on all such forest areas were demarcated out of the forest due to political consideration. The increase of the tendency of people to encroach upon the forest land with a hope that in future also such encroached land will be regularised by the Govt. The problem of encroachment is more in the forest situated near by habitation. There is no proper demarcation at most of the places.

The forests in and around thickly populated towns and coal mines are more prone to such encroachments. This problem is severe in Dhanbad and Topchanchi Ranges because the price of the land for habitation is very high and most of the forest adjoining such cities are devoid of vegetation and demarcation.

BY CATTLE :

Damage caused by cattle grazing is heavy in the forest of Dhanbad Division due to large cattle population and less per capita forest. The forests of this division are so scattered that they are vulnerable to grazing, as it is not possible to deploy forest staff at all places, as no of forest guards and foresters are much below the sanctioned strength, in such a scattered manner Continuous and heavy incidence of grazing not only prevents regeneration but also regenerated forest are lost due to trampling. In areas with clayey soils the trampling by cattle results in hardening of soil and reduction in soil aeration. In sandy soils heavy grazing results in accelerated erosion and denudation.

CHAPTER - II B
FOREST FAUNA

1.2B.1

Forest Fauna

The status of wild life in past has been described in fair details in the district gazetteer of Dhanbad published in the year 1917. Though the description related to the entire district of old Manbhum which has now given rise to districts of Bokaro and Dhanbad, it holds good in general to the tract of most parts of the Koilanchal revenue division of Jharkhand. The present Dhanbad Forest Division being part of it share the wild life legacy of the past though the variety and number of wild animals found here have dwindled significantly and is now part of the history. The description in this chapter makes an interesting reading and reproduced below for reference.

"There has been no zoological survey of this district and very little has been recorded with special reference to Hazaribagh. It is, however, probable that the wild animals found there are practically the same as those in the rest of North Chhotanagpur. There is no reason to believe that tigers are especially numerous in number.

The occurrence of wild animals is rather rare in this area at present. The commonest animal is the elephant and wild boar which is evident from the hue and cry raised by the villagers against damage caused to their agricultural crops by these animal. The other animals which are reported though in smaller number are the barking deer (rare) hyena, leopard, hare, wolf, jackal, sloth bear, and common langur.

A list of commonly found wild animals has been given in the beginning under "**List of Common Animals and Birds**"

An illustrative account of few endangered wild animals of the country is as follows.

Indian Elephant

The Asian elephant is one of the largest land mammals on Earth. The trunk of the Asian elephant has two finger-like structures at its tip that allow the animal to perform both delicate and powerful movements. Elephants have long, coarse hairs sparsely covering their body. Their skin is brown to dark gray. They have been very important to Asian culture for thousands of years - they have been domesticated and are used for transportation and to move heavy objects.



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Nothing can compare the majestic build up of an elephant and when you ride on when, it feels like you've gone back to the times of the royal. Elephants always catch the attention of every onlooker, but just like Tigers and Lions this animal has also come under threat of extinction.

Elephants live in a matriarchal family group of related females called a herd. They are led by the oldest and often largest female in the herd. Herds consist of eight to 100 individuals. Males may be associated with a herd, solitary or may live temporarily with other males. Elephants produce a variety of sounds including low frequency calls, high pitched calls and loud trumpeting.

Asian elephants eat grass, bark, roots and leaves. They also like crops such as banana grown by farmers, making them a pest in agricultural areas. Adult elephants eat about 330 pounds of food a day. They must drink water every day and are never far from a water source.

Asian elephants are mainly found across India and Sri Lanka and towards the south and east as far as Sumatra. They live in a range of habitats from grasslands to wet forests. Asian Elephants have a varied vegetarian diet, and feed on grasses, bamboo, leaves, bark, shoots, creepers and palms. They also prefer seasonal variety sometimes such as fig leaves and fruits, wood apple and mango.

Indian Elephants are very sociable animals and March from forest to forest, seldom staying in one for more than a few days. However, few males in their youth prefer to lead a solitary life. When on the move, the females lead the herd, with the tusked lagging behind, unless alerted to some approaching danger

LEOPARD

These cats have an elongate and muscular body. Their paws are broad and their ears are short. In tropical regions their coats tend to be shorter and sleeker, whereas in colder climates their fur is longer and denser. The coloration varies from the color of straw to grayish to even chestnut. The backs of the ears are black except for a spot either located centrally or near the tips. These appear to other animals as eyes. The throat, chest, belly, and the insides of the limbs are white. The rest of the head, throat, chest, and limbs all have small black spots. The belly has larger black spots, almost like blotches.

This characteristic is more frequent in densely forested areas where being darker is probably beneficial in remaining unseen as compared to open areas. Whether spotted or black, leopards' coloration is extremely effective. Scientists have been unable to spot these cats just a few yards away even knowing that they were present. Leopards have been recorded as long as 2.92 meters but that is extreme, 1.37-1.67 is more common.

Leopards are famous for their ability to go undetected. They may live practically among humans and still be tough to spot. They are graceful and stealthy. Amongst the big cats

District survey Report for Minor Minerals other than sand (Stone)

they are probably the most accomplished stalkers. They are good, agile climbers and can descend from a tree headfirst. Along with climbing, they are strong swimmers but not as fond of water as tigers; for example, leopards will not lay in water. They are mainly nocturnal but can be seen at any time of day and will even hunt during daytime on overcast days.

In regions where they are hunted, nocturnal behavior is more common. These cats are solitary, avoiding one another. However, 3 or 4 are sometimes seen together. When making a threat, leopards stretch their backs, depress their rib cages between their shoulder blades so they stick out, and lower their heads (similar to domestic cats). During the day they may lie in bush, on rocks, or in a tree with their tails hanging below the treetops and giving them away.

The diet of these big cats is surprisingly varied. Prey for this species includes: wildebeest, impalas, reed-bucks, Thomson's gazelles, jackals, baboons, and storks. These are the most common food sources with Thomson's gazelles and reed-bucks making up the majority. However, other prey are included in leopards' diet. At times they seem to show a preference for canines, even attempting in the past to snatch dogs right from the feet of their masters.

Black Buck Antelope

Black Buck or Kala Hiran also called Indian Black Buck Antelope (*Antelope cervicapra* L.). It has four sub species common name for an antelope, mainly of India but with other small populations in Pakistan and Nepal. The black buck has ringed horns that have a moderate spiral twist of three to four turns and are up to 70 cm (28 in) long. The name black buck has also been applied to the sable antelope of Africa. The adult male stands about 80 cm (about 32 in) at the shoulder and weighs 32 to 43 kg (71 to 95 lb). The body's upper parts are black; the under parts and a ring around the eyes are white. The light-brown female is usually hornless. Males are dark brown. Black bucks frequent the open plains in herds. When the rut (mating season) reaches a peak, one male establishes dominance.

It used to be found all over India except the northeast. Now it is seen in Punjab, Rajasthan, Haryana, Gujarat and central India. It does not live in dense forest but in open plains. It is one of the fastest animals on earth and can out run any animal over long distances. Open plains, which allow it to move fast, are therefore needed to protect it from predators.

The males darken at maturity and the most dominant male in the herd has a black coat. They are brown but turn tan after about a month. Grown males have ringed horns spiraling in a V at least thirty-three centimeters above the head. Record trophies exceed fifty centimeters. The black buck eats mainly grasses. Pods, fruits, and flowers supplement this diet. Few black bucks live longer than twelve years, and their maximum life span is about sixteen years.

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Indian Peacock

The male Indian Peafowl, commonly known as the peacock, is one of the most recognizable birds in the world. These large, brightly colored birds have a distinctive crest and an unmistakable ornamental train. The train (1.4-1.6 meters in length) accounts for more than 60% of their total body length (2.3 meters). Combined with a large wingspan (1.4-1.6 meters), this train makes the male peafowl one of the largest flying birds in the world. The train is formed by 100-150 highly specialized upper tail-coverts. Each of these feathers sports an ornamental ocellus, or eye-spot, and has long disintegrated barbs, giving the feathers a loose, fluffy appearance. When displaying to a female, the peacock erects this train into a spectacular fan, displaying the ocelli to their best advantage.

The more subtly colored female Peafowl is mostly brown above with a white belly. Her ornamentation is limited to a prominent crest and green neck feathers. Though females (2.75-4.0 kg) weigh nearly as much as the males (4.0-6.0 kg), they rarely exceed 1.0 meter in total body length.

National Insignia

The Indian peacock, *Pavo cristatus* (Lin.), the national bird of India, is a colorful, swan-sized bird, with a fan-shaped crest of feathers, a white patch under the eye and a long, slender neck

The peacock is widely found in the Indian sub-continent from the south and east of the Indus river, Jammu and Kashmir, east Assam, south Mizoram and the whole of the Indian peninsula. The peacock enjoys immense protection. It is fully protected under the Indian Wildlife Protection Act, 1972.

Diet

Indian Peafowl do most of their foraging in the early morning and shortly before sunset. They retreat to the shade and security of the forest for the hottest portion of the day. Foods include grains, insects, small reptiles, small mammals, berries, drupes, wild figs, and some cultivated crops.

This long and close association with humans has proven the peafowl's adaptability to human-altered landscapes. This species does not appear to need any additional legal protection or conservation attention.

COBRA

The Indian Cobra is known around the world as highly venomous snake that feeds on rodents, lizards, and frogs. As well as biting, the Indian cobra can attack or defend itself from a distance by "spitting" venom, which, if it enters the opponent's eyes, causes severe pain and damage. The snake actually forces the venom through its fangs, by exerting muscular pressure on the venom glands, so that it sprays out in twin jets for 2 m (6 1/2 ft) or more.

District survey Report for Minor Minerals other than sand (Stone)

Behavior of Indian Cobra

When threatened, the Indian Cobra will assume its characteristic posture. It will raise the front one-third of its body and elongate its long, flexible neck ribs and loose skin to form its distinctive hood, on which are resembled eyes. .

Status of Cobra in India

Although the Indian Cobra is not an endangered species, it has recently been hunted for its distinctive hood markings in the production of handbags. It is listed under the treaty because it closely resembles other species that are threatened and in need of protection.

Physical Characteristics of Indian Cobra

The Indian Cobra's most known characteristic features are the wide black band on the underside of the neck, and the hood marking design which shows half-rings on either side of the hood. It is a smooth-scaled snake with black eyes, a wide neck and head, and a medium-sized body. Its coloring varies from black, to dark brown, to a creamy white. The body is usually covered with a spectacled white or yellow pattern, which sometimes forms ragged bands. The Indian cobra may grow from 1.8m to 2.2m.

Most Poisonous - The King Cobra

The King Cobra is the largest of all poisonous snakes. This sometimes 5 meter long, lethal creature is entirely a snake eater. It enjoys Pythons, other Cobras, and even its own species. The King is aggressive, unpredictable, and can strike without provocation. It is most intelligent. When erect it can stand up to 2 meters in height. In certain fertility rites in Burma, a woman desirous of offspring is required not only to approach the King Cobra but to plant a kiss on its mouth. If she is successful in doing so she will bear many children; if she fails, obviously none.

Food Habits

The Indian cobra feeds on rodents, lizards and frogs. It bites quickly, and then waits while its venom damages the nervous system of the prey, paralyzing and often killing it. Like all snakes, *N. naja* swallows its prey whole. This species sometimes enters buildings in search of rodent prey.

Other Common Animals found in Dhanbad forests:

Other common animals are Sambhar deer, Indian Python, and Wild Cat, Monkey, Elephant,

District survey Report for Minor Minerals other than sand (Stone)



Commonly found Snakes:

A brief description of few common snakes in Dhanbad Division is as follows:

Indian Rock Python (Python molurus):

A large thick-bodied snake found in many parts of India. It ranges from the mangrove forest to arid scrublands and dense rain forest of the eastern Himalayas up to an elevation of about 2000 mts.

Common Sand Boa (Eryx conicus):

A short thick-bodied snake found in the plains and low hills of India. They are nocturnal and hunt after dark.

Red Sand Boa (Eryx johnii):

It is a medium-sized snake with a very blunt tail and is found in the drier tracts of the country.

Rat Snake (Ptyas muscosus):

A large-scaled snake found all over India up to an elevation of about 4000 mts. It is capable of adapting to almost any environment. They are prodigal rat-eaters.

Common Krait (Bungarus caeruleus):

A medium-sized snake with thin white bands on its body. Found almost all over India up to elevation of about 1700 mts. They are nocturnal in habit.

District survey Report for Minor Minerals other than sand (Stone)

Banded Krait (Bungarus faciatus):

A medium to large-sized snake with prominent yellow and black bands on its body. Found in northeast India, Bihar, Orissa, Madhya Pradesh, Andhra Pradesh and Uttar Pradesh up to an elevation of 1500 mts.

Russell's Viper (Vipera russellii) :

A medium to large-sized snake with a characteristic bright pattern on its body. Found all over India, both in the plains and hills up to an elevation of about 3000 mts.

Bamboo Pit Viper (Trimeresurus gramineus):

A small-sized snake with a triangular head. Found in the hills of central and eastern India. It prefers cold, thick vegetation along watercourses and bamboos and other dense foliage.



Leopards in India



Indian Gaur



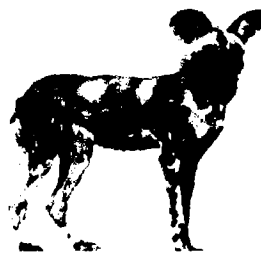
National Bird of India



Elephant



Deer in Gir



Indian Fox

District survey Report for Minor Minerals other than sand (Stone)



Indian Lion



Kobra - The Snake King



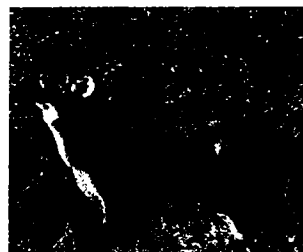
Indian Monkey



Indian Sambhar



Common Indian Crocodile



Indian spotted

PHOTOGRAPHS OF COMMON WILD ANIMALS OF JHARKHAND

