



**DRAFT DISTRICT SURVEY REPORT (DSR)**  
**OF**  
**SAMBALPUR DISTRICT, ODISHA**  
**FOR**  
**ROAD METAL / BUILDING STONE / BLACK STONE**

**(FOR PLANNING & EXPLOITING OF MINOR  
MINERAL RESOURCES)**

**ODISHA**



As per Notification No. S.O. 3611(E) New Delhi,  
25<sup>th</sup> July, 2018  
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE  
(MoEF & CC)

**COLLECTORATE, SAMBALPUR**

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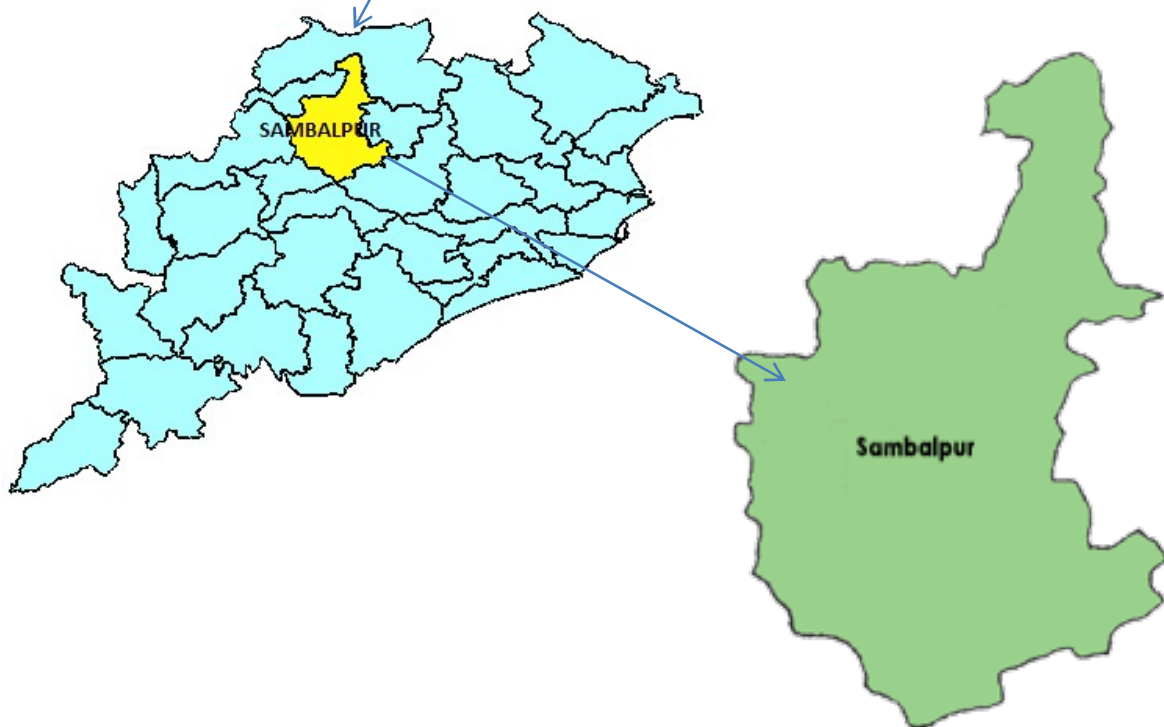
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# INDEX MAP



## ODISHA

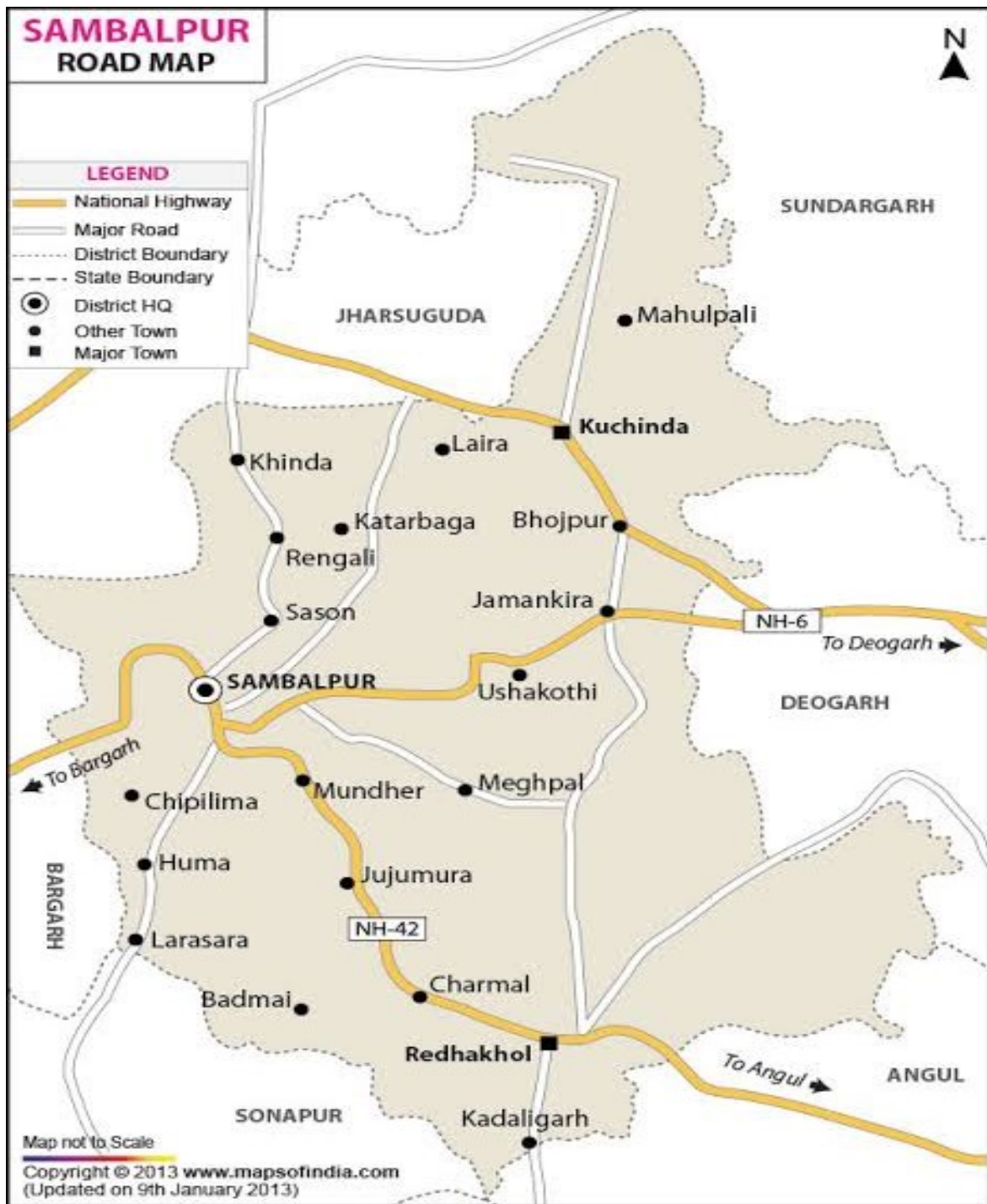


MAP SHOWING THE TAHASILS OF SAMBALPUR DISTRICT





### MAP SHOWING THE MAJOR ROADS OF SAMBALPUR DISTRICT



## PREFACE

In compliance to the notification issued by the Ministry of Environment and Forest and Climate Change Notification no. S.O.3611 (E) New Delhi dated 25-07-2018, the preparation of district survey report of road metal/building stone mining has been prepared in accordance with Clause II of Appendix X of the notification. Every effort has been made to cover road metal/building stone mining locations, future potential areas and overview of road metal mining activities in the district with all its relevant features pertaining to geology and mineral wealth. This report will act as a compendium of available mineral resources, geological set up, environmental and ecological set up of the district and is based on data of various departments like Revenue, Water Resources, Forest, Geology and Mining in the district as well as statistical data uploaded by various state Government departments. The main purpose of preparation of District Survey Report is to identify the mineral resources and developing the mining activities along with other relevant data of the District.

### 1. INTRODUCTION

Sambalpur district is in the western part of state of Odisha, India. The historic city of Sambalpur is the district headquarters. The district is located in the Mahanadi River basin. Sambalpur City is the connecting city between Chhattisgarh and Odisha. Whereas it used to be known for its importance as a diamond trading centre, nowadays it is mainly known for its textiles, especially the Sambalpuri Saree. The district is surrounded by Deogarh district in the East, Bargarh district in the West, Jharsuguda district in the North and Sonepur and Angul districts in the South.

The district of Sambalpur has a history full of events including Indian freedom struggle representing the different sections of the society. Sambalpur is mentioned in the book of Ptomely as Sambalaka on the river Manada. Sambalpur district was subsequently divided into four separate districts. Bargarh district was separated in 1993, and Jharsuguda and Deogarh districts were separated in 1994. The district covering a geographical area of 6702 sq km lies between 20 degree 54' to 22 degree 11' North Latitudes and 83 degree 49' to 84 degree 45' East Longitudes.

Sambalpur is mentioned in the book of Ptolemy (2nd century) as Sambalaka on the river Manada (the Mahanadi River). This gateway to the exotic charms of the

western region of Odisha was the cradle of an ancient civilization and is an important landmark in India's cultural history.

Sambalpur State was a former princely state of British India. When its ruler died without a direct male heir in 1849, the British seized the state under the doctrine of lapse. It was attached to the British Bengal Presidency, but was transferred to the Central Provinces in 1862. The district was transferred back to Bengal in 1905, but the subdivisions of Phuljhar and Chandarpur-Padampur remained with the Central Provinces. Bengal's Odisha division became part of the new province of Bihar and Odisha in 1912, and in 1936 became the separate province of Odisha. After Indian Independence in 1947, Odisha became an Indian state.

## **2. OVERVIEW OF MINING ACTIVITIES IN THE DISTRICT.**

The district constitutes a part of cratonic area which had been subjected to tectonic and thermal activities. Normally, cratons host a number of metallic as well as non metallic minerals. The following description gives an account of the mineral occurrences in the district.

**Diamond:** Winning of diamonds from the gravel beds exposed in the Hirakud Dam site is an age old process which is still going on by the local people. This is recovered along with gold panning. The history records that maximum weight of diamond is registered at 1 (one) carat (200 mg). The colour of the diamond normally is snow white, yellowish and brown colour. The source of these diamonds is yet to be explored.

**Gold:** Alluvial gold is being recovered from the recent gravel of all the creeks and rivers of this district. The activity can be seen in the River Mahanadi around Sambalpur, Tikra river in Redhakhol sub division and Kharla Nala in Kuchinda Sub- Division. An auriferous quartz vein is found to contain 0.08 gm per tonne which have been emplaced in Khondalite suite of rocks around Kuchinda.



**Gem stone:** The district is bestowed with rich potential of gem stones from Eastern Ghat Supergroup of rock : aquamarine, zircon, tourmaline and heliodor in Chabati-Beldihi belt, (ii) aquamarine, rhodonite, garnet, lolite, and amethyst in Bagdhapa-Tabloi belt (iii) corundum, lolite, green tourmaline and aquamarine are reported in the Meghpal-Ranchipada belt . Rare occurrence of alexandrite is reported from biotite schist at the contact of granite pegmatite and peridotite.

**Chrysoberyl:-** The known occurrence of chrysoberyl is located around Ranchipara- Meghpal area about 35 km from Sambalpur Town. Small incidence of chrysoberyl including Alexandrite is mineralized along the contact zone of pegmatite and ultrabasic rocks. The gem stones recovered are shattered and a very few pieces are found suitable for lapidary unit. Besides, few pieces of green beryl, tourmaline and garnets are also found. The occurrence has been extensively worked out by the local artisans.

**Corundum:-** Red and pink coloured massive and crystalline variety of corundum is recovered from the colluvial zones located around Meghpal village. Due to its opaque nature, few of them are found to be cabochon variety. In addition, stray occurrences of blue coloured corundums are also found around Redhakhol area.

**Aquamarine:-**

Gem grade aquamarines are recovered from the extensively developed colluvial zones on either side of the pegmatites intruding into the older metamorphic rocks. The localities of aquamarine occurrences are Charbati, Shradhapur, Barkhol, Kandhal, Tabloi, Jujumura,, Bhimkhoj, Telighana and Badmal. Minor incidence of aquamarine is reported from Bansajal, Bhaluchua, Hatia Joypur, Palsamal, Burhiakata and Chamakhunda.

**Heliodor:-**

It is a variety of beryl of yellow colour is found along with the other aquamarine around Charbati.

**Goshenite:-**

Transparent, colourless beryl better known as Goshenite are found around Jaripani near Redhakhol and Charbati area in pegmatites intruding into khondalitic rocks. The incidence is erratic.

**Zircon:-**

Gem quality zircons are mineralized in the contact zone of pegmatite and khondalite around the east of Charbati. The colour of zircon is reddish brown.

**Garnet:-**

Different variety of gem garnet like rhodolite, almandine, pyrope are found to be associated with khondalite suite of rocks. Rhodolite garnets which are purplish red in colour but shattered are found as pockets around Baghdapa, Deojharan under Jujumura Block. Almandine garnets of red and deep red in colour are found to occur around Baghdapa, Deojharan, Badmal in the Redhakhol Sub Division. In addition to these garnets, small pockets of pyrope garnets are highly fractured and found unsuitable for lapidary units except a few pieces, although brilliant fire and colour are noticed.

**Manganese:**

Low grade manganese ores occur near Khandhal in Sagmalia Reserve Forest under Redhakhol Sub Division in association with khondalite. But it contains high phosphorous. Manganese ore is also reported to occur in Jamnakira area of Kuchinda Sub Division.

**IronOre:-**

Sporadic occurrences of iron ores are found around Lohakhanda in Kuchinda Sub Division. The iron ore is of low grade and not suitable for iron making on economic scale at present.

**Ilmenite:-**

Fine grained ilmenite is reported from the area around Mundher with traces of nickel in the Eastern Ghat Suite of rocks.

**Coal:-**

Coal seams are encountered in the Gondwana rocks around Rail and Koing area of Redhakhol Sub Division. Exploration data reveals three numbers of coal seams classified under E & F grade.

**Fire clay:-**

Fire clay is located about 0.5 km north east of Bindupur in Redhakhol Sub Division, extending intermittently over a distance of 1.5 km. The clay is grayish white to buff in colour. Besides, low grade fire clays are being mined out in Chandli Reserve Forest around Burla over an area of 25 acres.

**Clay:-**

Sporadic pockets of clay in the khondalitic suite of rocks are found and leased out around Jhankarpalli, Banjipalii, Choukitikra ( Akharkhand Hill) in Kuchinda Sub Division.

**Quartzite/ Quartz:-**

Quartz and quartzite containing +97% SiO<sub>2</sub> occur around Bodmal ,Charbati and Bamra.

**Dimension stones:-**

Quarriable exposures of pink and grey colour granites and its variants are located around Badmal, Bhoipali of Kuchinda Sub Division and Sahaspur, Chhachanpalli, Salesingha area of Sambalpur Sub Division. A reserve of 1.17 million cubic meter of granite blocks has been estimated so far.

Other than the above mentioned minerals, minor minerals such as river sand, laterite slabs, building stone/black stone/road metals, morrum, brick earth etc. are also available in the district.

### 3. GENERAL PROFILE

#### a. Administrative set up:

SI No	Item	Unit	Magnitude
1	Location		
	Longitude	Degree	83 <sup>0</sup> 49' to 84 <sup>0</sup> 45'East
	Latitude	Degree	20 <sup>0</sup> 54' to 22 <sup>0</sup> 11' North
2	Geographical area	Sq.Km.	6624
3	Sub-division	Numbers	3
4	Tahasils	Numbers	9
5	C D Blocks	Numbers	9
6	Municipalities	Numbers	1
7	NACs	Numbers	2
8	Police Stations	Numbers	24
9	Gram Panchayats	Numbers	138
10	Villages	Numbers	1313
	Inhabited	Numbers	1229
	Uninhabited	Numbers	84
11	Assembly constituencies	Numbers	4

#### b. Area and Population:

The district has an area of 6657 sq. kms and 10 lakhs of population as per 2011 census. The district accounts for 4.28 percent of the states territory and shares 2.48 percent of the states population. The density of population of the district is 157 per sq. kms. as against 2.70 person per sq.km of the state. It has 1322 villages (including 84 un-inhabited villages) covering 9 blocks, 9 Tahasils and 3 Subdivisions. As per 2011 census the schedule caste population is 191827 (18.4 %) and schedule tribe population 355261 (34.1 %) . The literacy percentage o the district covers 76.2 against 72.9 of the state.

#### c. Climate :

The climate condition of the district is generally hot with high humidity during March to September and cold during October to February The monsoon

generally breaks during the month of 15th June. Average annual rainfall of the district was 1672.5 m.m in 2011 which is higher than the normal rainfall (1495.7 m.m).

**d. Economy:**

The economy of Sambalpur district is basically dependent on agriculture and secondly on forests. Forests play an important role in the economy in terms of contribution to revenue, Domestic Product as well as dependence of people for livelihood. In the past Sambalpur has been a great centre of diamond trade. Kendu leaf (*Diospyros Melanoxylon*) is also produced in Sambalpur. Tendu leaf is one of the most important non-wood forest products of Sambalpur and is also called as green gold of Odisha. Lately industrialisation has started in the district and the prime industries of power, alumina and steel have been established. The place is famous for its globally renowned textile bounded patterns and fabrics locally known as Baandha. Sambalpur is famous for its Hand loom textile works, popularly known as Sambalpuri Textile. It has earned international fame for its unique pattern, design and texture. Apart from textiles, Sambalpur has a rich tribal heritage and fabulous forestlands.

**e. Industry:**

No. of MSME units set up	Investment (In Rs. crores)	Employment Generated				Employment of women
		SC	ST	General	Total	
3319	19961.98	2792	2902	6868	12562	4532

**f. Agriculture:**

During the year 2017-18 the net area sown was 192 thousand hectares against 5356 thousand hectares of the state. The production of was as below:

Name	Paddy	Wheat	Maize	Mung	Biri	Kulthi	TilL	Groundnut	Mustard	Potatoes	Jute	Sugarcane
Production in 000 MT	229.47	0.16	9.92	12.96	8.20	0.84	7.01	3.46	2.24	0.00	12.00	3.27

During 2017-18, the total fertilizers used in the district was about

Type of fertiliser	Nitrogenous	Phosphatic	Pottasic	Total	Consumption per Ha
Quantity in MT	19822	8803	4323	32948	132.48

**g. Power:**

Consumption of electricity in Sambalpur district during the year 2010-11 covers 307.619 million units and villages so far electrified as on 2010-11 is 1611 which constitutes 94 % to the total villages of the district.

**h. Transport & Communication:**

Railway route length (14-15) km	167.81
No of Rly stations and PH(14-15)	18
Forest road (17-18) km	739.10
National Highway (16-17) km	260.85
State Highway (17-18) km	58.53
Major district road (17-18) km	156.21
Other dist road (17-18) km	508.93
Rural road(17-18) km	1345.49
Inter village road (16-17) km	2730.64
Intra village road (16-17) km	2348.11

**i. Health:**

The medical facilities are provided by different agencies like Govt., Private individuals and voluntary organizations in the district.

Sub divisional hospitals including mobile	6 No
Beds facilities	1419 No
Homoeopathic dispensaries	15 No
Ayurvedic dispensaries	16 No

**j. Tourist places:**

There are 6 nos. of tourist center such as Hirakud dam, Huma temple, Samaleswari temple, Ghanteswari (Chipilima), Usakothi, and Deojharan identified by department of Tourism and Culture, Orissa. During 2011, the numbers of Domestic tourists were 848724 and foreign tourists were 348 who visited the tourists spots of the district.

**k. Forest areas:**

Category of forest	Area in sq km
Reserve Forest	2151.71
Unclassified Forest	1.18
Demarcated Protected Forest (DRF)	363.01
Undemarcated Protected Forest	0
Other forest under Revenue Dept	1115.87
<b>Total</b>	<b>3631.77</b>

**l. Education:**

Primary School (2017-18)	No. of Schools	899
	Enrolment (No)	86603
	Pupil Teacher Ratio	19.07
Upper Primary School 2017-18	No. of Schools	566
	Enrolment (No)	52953
	Pupil Teacher Ratio	18.06
General College 2017-18	Junior	51
	Degree	21
Secondary School	No. of Schools	236
	Enrolment (No)	28949
	Pupil Teacher Ratio	22.42
Literacy Rate, 2011	Male	84.4
	Female	67.9
	Total	76.2

**m. Culture & Heritage:**

The district experiences many beautiful festivals round the year. Sital Sasthi is observed in the month of June. This festival is the marriage ceremony of Lord Shiva and Parvati. Nuakhai is the most important social festival of the



District. Bhajijuntia festival is celebrated on the Mahastami Day of Durga Puja. The Puajijuntia festival is observed by mothers to invoke the grace of Lord Dutibahana for the long life and prosperity of their sons. Other religious festivals which are observed include Shiva Ratri, Dola Yatra, Durga Puja, Janmanstami, Diwali, Ganesh Puja and Saraswati Puja.

Many eminent personalities have taken birth on the soil of the Sambalpur District. Bir Surendra Sai (freedom fighter), Gangadhar Meher (Poet of nature), Bhama Bhoi (celebrated religious and poet), Satya Narayan Bohidar (Pioneer of Sambalpuri language and grammar), Swapneswar Das (accomplished poet and eminent journalist), Gokulanand Panda (Poet of extraordinary caliber), Sunil Mishra (renowned writer of humour and social satire), Braja Mohan Panda (Educationist of repute) and Laxmi Narayan Mishra (Eminent freedom fighter) are the famous personalities of this soil.

#### **4. GEOLOGY**

The Sambalpur district houses a wide variety of rock types of different ages. They can broadly be classified into Eastern Ghat Supergroup, Bonai Group, Gangpur Group, Chattisgarh Group, intrusive nepheline syenite, Gondwana Supergroup and Quaternary sediment. The rocks belonging to Eastern Ghat Supergroup are mostly quartz-garnet-graphite-sillimanite gneiss and quartzite of Khondalite Group and acid/intermediate charnockite, pyroxene granulite and leptynite of Charnockite Group. The khondalite suite of rocks are found mostly in the southern parts of the district, west of the central Gondwanic graben. The charnockite occurs in the form of massive plutonic massif confined to the central part of the district. The trend of gneissosity in the Eastern Ghat belt swerves from northeasterly in the western part to northwesterly in the eastern part of the district. Granite gneiss, migmatite and augen gneiss form the most conspicuous country rocks in the district, stretching from Panikhimal in the south to as far as Govindpur in the north. It is essentially biotite granite, with composition ranging from granodiorite to occasional alkali granite. Bonai Group is represented by meta-volcanics and sericite quartzite in stratigraphically lower horizons and shale, phyllite, mica schist, quartz sericite schist in the upper horizons. They are mostly found in the northeastern part of the district. Metabasic bodies are occasionally found as intrusives within the metasedimentaries

of Bonai Group. A very thin strip of sedimentary rocks belonging to Gangpur Group are found near the northern tip of the district. The rock types are basal conglomerate, quartzite, phyllite and mica schist. An isolated outcrop of Chattisgarh Supergroup of rocks occurs west of Mahanadi River. It runs in a N-S direction. A cluster of nepheline syenite bodies are intruded into the Eastern Ghat Supergroup of rocks near Rairakhol which is responsible for the formation of gemstones in the region. The swarm of NW-SE trending dolerite dykes traverse the gneisses near Badarama Reserve Forest. Rocks of Gondwana Supergroup are hosted in the fault bounded basins occupying the central portion of the district with a NW-SE trend. They are represented by Talchir Formation, Barakar Formation and Mahadeva Formation. Coal bearing horizons are yet to be reported from the Barakars, present in the district. Quaternary sediments are sporadically distributed district. They occur as soil/alluvium in the pediplains and flood plains. Cenozoic laterites occur as small cappings over the altered bedrocks.

**STRATIGRAPHY:** The geological succession in the district is as follows:

Age	Geological Unit		Litho unit
Pleistone to recent	Quaternary		Soil/ Alluvium
Cenozoic			Laterite
Permian-Triassic	Gondwana Super Group	Mahadev Formation	Red sandstone/ clay
		Barakar Formation	Sandstone & shale
		Talchir Formation	Boulder bed, sandstone, needle shale
			Quartz Vein/ Dolerite dyke
Proterozoics (Undiff.)			Nepheline syenite
Middle- Upper proterozoic	Chhatishgarh Super Group	Chandarpur Formation	Sandstone , quartzite, clay, shale)
			Intrusive granite (equivalent to Gangpur granite)
			Phyllite, mica schist
Lower Proterozoics		Gangpur Group	Basal Conglomerate & quartzite
			Metabasic rocks(Intrusive)
		Upper Bonai Group	shale, mica-schist, phyllite
			sericite quartzite)
Archaean to Lower Proterozoic			Metabasics/metavolcanics
		Lower Bonai Group	Quartzite & Sericite quartzite
			Granite gneiss, Augen gneiss, migmaite
			Acid/intermediate Charnockite
		Charnockite group	Pyroxene granulite
Archaean	Eastern Ghat Super Group		Leptynite
		Khondalite Group	Quartz-garnet-sillimanite gneiss
			Quartzite

## 5. DRAINAGE AND IRRIGATION PATTERN.

The drainage of the district is mainly controlled by rivers like Mahanadi & Bheden and their tributaries like Bamphei Nadi, Sialjore Nadi, Malti Jore, Gadgadbahal jore etc. Major part of the district is irrigated through canal irrigation from Hirakud dam on river Mahanadi.

## 6. LANDUSE PATTERN

SI No	Landuse	Area in '000Ha
1	Forest Area	363
2	Misc. trees & Grooves	4
3	Permanent Pasture	13
4	Culturable Waste	19
5	Land put to Non Agril Use	33
6	Barren & Unculturable Land	18
7	Current Fallow	2
8	Other Fallow	17
9	Net Area Sown	192
10	Mining	5
	Geographical Area	666

## 7. SURFACE WATER & GROUND WATER SCENARIO

The drainage systems i.e. rivers of the district gets filled with water during the monsoon and the gradually it decreases from the month of January to June of each year. In the summer season all rivers become almost dry excepting narrow flow of water within the basin.

The variation of ground water table in the district is as follows:

Depth of water level (mbgl)/ Period	April	August	November	January
Minimum	0.45	0.26	0.60	0.41
Maximum	11.8	7.42	9.25	10.0

## 8. RAINFALL & CLIMATIC CONDITION

The district is generally hot with high humidity during April and May and cold during December and January. The monsoon generally breaks during the month of July and continues till end of October. The temperature goes as high as up to 46°C in the summer and up to 7<sup>o</sup>-8<sup>o</sup> C during peak winter.

The rainfall statistics of the district for last four years is given below:

Year/ Month	APRIL	MAY	JUNE	JULY	AUGUST	SEPT	OCT	NOV	DEC	JAN	FEB	MARCH	TOTAL
15-16	534.1	29	2281.4	3935.1	3578.3	1366.8	93.6	0	180.4	44.3	59.8	96.6	12199.4
16-17	62.6	281.5	782.8	2109.1	4471.2	2323.2	452.9	2	0	156.2	0	110.2	10751.7
17-18	7.1	300.6	2488	3524.2	2311.2	1814	559.4	73.2	0	0	0	8.8	11086.5
18-19	428.2	948.8	1580.2	4763.4	4615.2	1634.3	124.5	9.8	830.4	6.3	235.8	257	15433.9
<b>AVG</b>	258	389.975	1783.1	3582.95	3743.98	1784.58	307.6	21.25	252.7	51.7	73.9	118.15	12367.9

## 9. DETAILS OF MINING LEASES OF ROAD METAL

Attached vide Annexure I

## 10. DETAILS OF ROYALTY COLLECTED (Rs)

Sl.No	Name Of Tahasil	2015-16	2016-17	2017-18	2018-19
1	Bamra	0	134280	160401	19250
2	Jamankira	0	310000	307000	314000
3	Jujomora	0	10963000	12798000	13252000
4	Kuchinda	0	192000	222000	253000
5	Maneswar	10548000	15327000	17564000	15403000
6	Naktideul	21000	223000	290000	0
7	Rairakhol	245600	250400	312000	312000
8	Rengali	5427000	5666000	6926000	7024000
9	Sadar	15452000	14007000	751000	7245000
<b>TOTAL</b>		<b>31693600</b>	<b>47072680</b>	<b>39330401</b>	<b>43822250</b>

## 11. DETAILS OF PRODUCTION OF MINOR MINERAL

### Yearwise Production of Road metal in cum

Sl.No	Name of Tahasil	2015-16	2016-17	2017-18	2018-19
1	Bamra	4492	9130	36272	7942
2	Jamankira	1182	1182	1171	1206
3	Jujomora	89607	98351.5	98301.5	105569.3
4	Kuchinda	1449	1449	1449	1449
5	Maneswar	113585.6	121673.4	129638.1	130070.1
6	Naktideul	2228	2228	2228	2228
7	Rairakhol	2320	2360	2400	2400
8	Rengali	42855	44097	46294	39720
9	Sadar	351579.4	326588.4	284498.6	269846.6
<b>TOTAL</b>		<b>609298</b>	<b>607059.3</b>	<b>602252.2</b>	<b>560431</b>

## 12. MINERAL MAP OF THE DISTRICT

Attached as Plate No 4.

## 13. LIST OF LOI HOLDERS ALONG WITH VALIDITY

List enclosed as Annexure II

## 14. TOTAL MINERAL RESERVE AVAILABLE IN THE DISTRICT

Total mineral reserve of road metal/buildingstone/blackstone/white stone is 63,08,152 cum which may increase after detail investigation.

Details of the potential areas submitted as Annexure III.

## 15. QUALITY/GRADE OF MINERAL

Road metal/building metals of the district are very much suitable for various construction purposes after its crushing and screening. The in-situ rocks are fractured making these unsuitable for decorative purpose.

## 16. USE OF MINERAL

Road metal/building metals of the district are used mainly for various construction purposes like road making, concrete making, dams etc.

## 17. DEMAND & SUPPLY OF THE MINERAL

The tentative annual demand is to the tune of 5 lakh cum of road metal and is mainly supplied from different tahasils of the district and adjoining districts of Jharsuguda and Baragad.

## 18. MINING LEASES MARKED ON THE MAP OF THE DISTRICT.

Attached as Plate No 5.

## **19. DETAILS OF AREAS WHERE THERE IS A CLUSTER OF MINING LEASES**

Not applicable

## **20. DETAILS OF ECO-SENSITIVE AREA**

An area of 11.475 Ha of the district comes under eco-sensitive zone.

## **21.IMPACT ON THE ENVIRONMENT (AIR, WATER, NOISE, SOIL FLORA & FAUNAL , LAND USE , AGRICULTURE, FOREST ETC.) DUE TO MINING**

### **Activities attributed to Mining:-**

Generally, the environment impact can be categorized as either primary or secondary. Primary Impacts are those, which are attributed directly by the project. Secondary impacts are those which are indirectly induced and typically include the associated investment and changed pattern of social and economic activities by the proposed action.

The impact has been ascertained for the project assuming that the pollution due to mining activity has been completely spelled out under the base line environmental status for the entire ROM which is proposed to be exploited from the mines.

### **Impact on Ambient Air**

Mining operation are carried out by opencast manual, semi mechanized/ mechanized methods generating dust particles due to various activities likes, excavation, loading, handling of mineral and transportation. The air quality in the mining areas depends upon the nature and concentration of emissions and meteorological conditions.

The major air pollutants due to mining activities include:-

- Particulate matter (dust) of various sizes.
- Gases, such as sulphur dioxide, oxides of nitrogen, carbon monoxide etc from machine & vehicular exhaust.

Dust is the single air pollutant observed in the open cast mines. Diesel operating drilling machines, blasting and movement of machineries/ vehicles produce NO<sub>x</sub> , SO<sub>2</sub> and CO emissions, usually at low levels. Dust can be of significant nuance surrounding land user and potential health risk in some circumstances.



## **Water Impact**

Sometimes the mining operation leads to intersect the water table causing ground water depletion. Due to the interference with surface water sources like river, nallah etc drainage pattern of the area is altered.

## **Noise Impact**

Noise pollution mainly due to operation of machineries and occasional plying of machineries. These actives will create noise pollution in the surrounding area.

## **Impact on Land environment**

The topography of the area will change certain changes due to mining activity which may cause some alteration to the entire eco system.

## **Impact on Flora & Fauna**

The impact on biodiversity is difficult to quantify because of it's diverse and dynamic characteristics.

Mining activities generally result in the deforestation, land degradation, water, air and noise pollution which directly or indirectly affect the faunal and flora status of the project area.

However, occurrence and magnitude of these impacts are entirely dependent upon the project location, mode of operation and technology involved.

## **22. REMEDIAL MEASURES TO MITIGATE THE IMPACT OF MINING ON THE ENVIRONMENT:-**

Air

Mitigation measures suggested for air pollution controls are to be based on the baseline ambient air quality of the project/cluster area and would include measures such as:

- Dust generation shall be reduced by using sharp teeth of shovels.
- Wet drilling shall be carried out to contain the dust particles.

- Controlled blasting techniques shall be adopted.
- Water spraying on haul roads, service roads and overburden dumps will help in reducing considerable dust pollution.
- Proper and regular maintenance of mining equipment's have to be undertaken.
- Transport of materials in trucks are to be covered with tarpaulin.
- The mine pit water can be utilized for dust suppression in and around mine area.
- Information on wind diction and meteorology are to be considered during planning, so that pollutants, which cannot be fully suppressed by engineering techniques, will be prevented from reaching the nearby agricultural land, if any.
- Comprehensive greenbelt around overburden dumps and periphery of the mining projects/clusters has to be carried out to reduce to fugitive dust transmission from the project area in order to create clean & healthy environment.

### **Water**

- Construction of garland drains and settling tanks to divert surface run –off of the mining area to the natural drainage.
- Construction of checks dams/ gully plugs at strategic places to arrest silt wash off from broken up area.
- Retaining walls with weep hole are to be constructed around the mine boundaries to arrest silt wash off.
- The mined out pits shall be converted in to the water reservoir at the end of mine life. This will help in recharging ground water table by acting as a water harvesting structure.
- Periodic analysis of mine pit water and ground water quality in nearby villages are to be undertaken.
- Domestic sewage from site office & urinals/latrines provided within ML/QL areas is to be discharged in septic tank followed by soak pits.

### **NOISE**

- Periodic maintenance of machineries, equipments shall be ensured to keep the noise generated within acceptable limit.
- Development of thick green belt around mining/cluster area, haul roads to reduce the noise.
- Provision of earplugs to workers exposed to high noise generating activities like blasting, excavation site etc. Worker and operators at work sites will be provided with earmuffs.
- Conducting periodical medical checkup of all workers for any noise related health problems.
- Proper training to personnel to create awareness about adverse noise related effects.
- Periodic noise monitoring at locations within the mining area and nearby habitations to assess efficacy of adopted control measures.
- During blasting optimum spacing, burden and charging of holes will be made under the supervision of competent qualified mines foreman, mate etc.

#### **Biological Environment**

- Development of green belt/gap filling saplings in the safety barrier left around the quarry area/ cluster area.
- Carrying out thick greenbelt with local flora species predominantly with long canopy laves on the inactive mined out upper benches.
- Development of dense poly culture plantation using local floral species in the mining areas at conceptual stage if the mine is not continued much below the general ground level.
- Adoption of suitable air pollution control measures as suggested above.
- Transport of materials in trucks covered with tarpaulin.

#### **23. RECLAMATION OF MINED OUT AREA (BEST PRACTICE ALREADY IMPLEMENTED IN THE DISTRICT, REQUIREMENT AS PER RULES AND REGULATION, PROPOSED RECLAMATION PLAN) :-**

As per statute all mines/quarries are to be properly reclaimed before final closure of the mine. Reclamation of exhausted mines are planned to be undertaken in below three possible means:

1. If, substantial amount of waste is there, the exhausted quarry can be fully or partly backfilled using the stored waste. The backfilled areas are to be brought under plantation of local species.
2. If the generation of waste is much less as in the case of minor mineral mining, the exhausted quarries can be reclaimed by
  - a. Plantation on the broken up surface if the depth of quarry is not much below the surrounding surface level.
  - b. Converted to water reservoir after stabilization of the slopes if the exhausted quarry continues much below the surrounding surface level. It is preferred to cordon the water reservoir either through wire fencing or retaining wall with plantation from the safety point of view.

Most of the quarry/mining lease areas are yet to be exhausted from ore point of view. Hence, reclamation would be taken up only after exhaustion of the ore/mineral content from these areas. The exhausted minor mineral quarries of the district have been converted to water reservoirs.

#### **24. RISK ASSESSMENT & DISASTER MANAGEMENT PLAN**

The only risk involved related to mining of minor mineral excepting natural calamities is slope failure and probable accidents due to high and ill maintained bench walls. This can only be addressed through making of regular benches and undertaking mining in benching pattern.

The disaster management plan (DMP) is supposed be a dynamic, changing, document focusing on continual improvement of emergency response planning and arrangements.

The disaster management plan is to be aimed to ensure safety of life, protection of environment, protection of installation, restoration of production and savage operations in this same order of priorities. For effective implementation of the disaster management plan, it should be widely circulated through rehearsal/induction conducted by the respective department from time to time .

### **General responsibilities of employees' during an emergency:**

During an emergency, it becomes more enhanced and pronounced when an emergency warning is raised, the worker in charge, should adopt safe and emergency shut down and attend to any prescribed duty. If no such responsibility is assigned, the workers should adopt a safe course to assembly point and wait instructions. He should not resort to spread panic. On the other hand, he must assist emergency personnel towards objectives of DMP.

### **Co-ordination with local authorities:**

The Mine Manger who is responsible for emergency will always keep a jeep ready at site. In case of any eventuality, the victim will be taken to the nearby hospitals after carrying out the first aid at the site. The Manger should collect and have adequate information of the nearby hospitals, fire station, police station, village panchayat heads, taxi stands, medical shops, district revenue authorities etc. and use them efficiently during the case of emergency.

### **25. DETAILS OF THE OCCUPATION HEALTH ISSUES IN THE DISTRICT. (LAST FIVE- YEAR DATA OF NUMBER OF PATIENTS OF SILICOSIS & TUBERCULOSIS IS ALSO NEEDS TO BE SUBMITTED):-**

As per the guidelines of the Mine Rules 1995, occupational health safety has been stipulated by the ILO/WHO. The proponent's will take necessary precautions to fulfill the stipulations. Normal sanitary facilities have to be provided within the lease area. The management will carry out periodic health checkup of workers.

Occupational hazards involved in mines are related to dust pollution, noise pollution, blasting and injuries from moving machineries & equipment and fall from high places. DGMS has given necessary guidelines for safety against these occupational hazards. The management has to strictly follow these guidelines.

All necessary first aid and medical facilities are to be provided to the workers. The mine shall be well equipped with personal protective equipment (PPE). Further, all the necessary ported equipments such as helmet, safety goggles, earplugs, earmuffs etc are to be provided to mine workers as per Mines Rules. All operators and mechanics are to be trained to handle fire fighting equipments.

#### **TUBERCULOSIS DATA**

YEAR	No of Tuberculosis patients
15-16	1512
16-17	1553
17-18	1699
18-19	1335

There is no case of Silicosis found in Sambalpur within the time frame mentioned above.

#### **26. PLANTATION OF GREEN BELT DEVELOPMENT IN RESPECT OF LEASES ALREADY GRANTED IN THE DISTRICT**

As most of the minor mineral mines/quarries of the district are yet to be exhausted of their mineral content no sort of reclamation measures including plantation has been undertaken excluding gap plantation of local species in the peripheral safety zones of the quarries/ clusters and in some of the haul roads.

#### **27. ANY OTHER INFORMATION**

Nil

**ANNEXURE I**

**ROAD METAL/ BLACKSTONE/WHITESTONE/LATERITE/ MORRUM/EARTH FOR ROAD CONSTRUCTION/EARTH FOR BRICK  
MAKING SAIRATS ALREADY LEASED OUT AND EXECUTED**

**(TO BE FILLED BY TAHASILDARS FOR RESPECTIVE TAHASILS [SEPARATE SHEET FOR DIFF MINERAL])**

Sl. No.	Name of Tahasil	Name of Minor Mineral	Name of village	Name of lessee	Address & contact No of lessee	Mining lease grant order No & date	Period of QL		Date of commencement of mining operation	Status (working/ non-working/Temp working for depatch)	Captive or Non-captive	Lt No & date of grant of EC	Location of Resource (GPS co-ordinates or Khata & Plot No) (Sketch map to be attached)	Method of mining	Area leased for mineral concession (in sq m)	Mineable mineral potential as per approved mining plan (in cum)
							From	To								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Bamra	Stone	Dan gajore	Bikram Kumar Naik	L-III Chhend Phase I, Rourkela 15, Dist - Sundargarh	na	2015-16	2019-20	na	Non-working	Non Captive	Letter No.48/DEI AA/Dated 29-04-16	Kh No.98, PI No. 1345,1346,1359 ,1394.	OC	12626	43125
2	Bamra	Stone	Lari apali	Kumud Ranjan Mohanty	Basanti Colony, Po- Rourkela, Dist- Sundargarh	na	2015-16	2019-20	na	Non Working	Non Captive	Letter No.46/DEI AA/Dated 29-04-16	Kh no- 75 , PI no 76	OC	4452	13500
3	Bamra	Stone	Ren galbeda	Ganesh Agrawal	Ward No.4 Main road Rajgangpur, Dist - Sundargarh.	na	2015-16	2019-20	na	Non Working	Non Captive	Letter No.50/DEI AA/Dated 29-04-16	Kh No. 100,101 PI no. 175,129,	OC	8296	11185
4	Bamra	Stone	Gurla	Rajesh Kedia	Vill- Dehuripra , po-	na	2015-16	2019-20	na	Non Working	Non Captive	Letter No.44/DEI AA/Dated	Kh No 216, PI No. 169,171,384	OC	18048	64130



					Garposh, ps- govindpur , Dist- Sambalpu r							29-04-16				
5	Bamra	Stone	Dum ku	Prafulla Nayak	Lapada,PS - Mahulpali Sambalpu r	na	201 5-16	201 9-20	na	Non Working	Non Captiv e	RefNo.SEI AA/393/D ated.25.0 1.2016	Khata No.61,Plot No.501	OC	45931	237885
6	Bamra	Stone	Bam phei	Manoj Kumar Awasthy	Po- Dharuadi hi Ps- Dharuadi hi Dist- Sundargar h	na	201 5-16	201 9-20	na	Non Working	Non Captiv e	na	Khata No.222, Plot No.799,1807,79 9/2700,799/270 2	OC	25172	216555
7	Jaman kira	Stone	Sale dun guri /21. 06.2 016	Rajesh Kumar Nayak	AT- Ghosarag oda PO- Barhamu ndi PS- Jamankira Dist.-: Sambalpu r Mo. No.- 94370657 53	447 Dt. 01.10. 2015	201 5-16	201 9-20	21.06.2 016	Working	Captiv e	69/DEIAA Dt. 14.05.201 6	Khata No- 2 Plot-246(P)	OC	Ac. 0.335	2832
8	Jaman kira	Stone	Bad bali mal, Mah ijori a Dt. 20.0	Pramir Jayapuria	At- Badbalim al PO- Gunduruc huan PS- Kuchinda, Dist.-	25.11. 2014	201 5-16	201 9-20	21.06.2 016	Working	Captiv e	102/SEIAA Dt. 11.01.201 6	Khata No- 80 Plot-20/1234 & 34/1235 Khata No. 10 Plot-31	OC	Ac.0.90 9	3150

			8.20 16		Sambalpu r- 99373165 39											
9	Jujom ora	Hatiba ri Stone Quarr y-1	Hati bari	M/s Jaiguru Stone Works, Partner Radhika Agrawal	VSS marg, SBP, Mob No.94370 570063	16215 04467 / dt.23. 12.15	201 5-16	201 9-20	From 2015-16	Working	Non- Captiv e	4335/SEIA A, Dt.17.08.2 015	La:2120'35.60"- 2120'41.00" Lo:8405'48.20"- 8405'57.90"	OC	125000 00	359617.5
10	Jujom ora	Barloi Stone Quarr y-2	Barl oi	M/s Jaiguru Stone Works, Partner Radhika Agrawal	VSS marg, SBP, Mob No.94370 570063	16216 02550 / dt.01. 07.16	201 6-17	201 9-20	From 2016-17	Working	Non- Captiv e	95/DEIAA, DT.31.05. 2016	La:2119'22.68"- 2119'30.17" N Lo:8404'57.80"- 8405'06.55"	OC	131000 0	6306
11	Jujom ora	Hatiba ri Stone Quarr y-3	Hati bari	Avinash Jena	Modipada , SBP, Mob No.70080 51844	16216 02084 / dt.26. 05.16	201 5-16	201 9-20	From 2015-16	Working	Non- Captiv e	42/SEIAA, Dt.11.01.2 016	La:2120'35.10"- 2120'48.50" Lo:8404'51.00"- 8405'03.20"	OC	216400 00	11250
12	Jujom ora	Hatiba ri Stone Quarr y-4	Hati bari	Avinash Jena	Modipada , SBP, Mob No.70080 51844	16218 01540 / dt.30. 04.18	201 5-16	201 9-20	From 2015-16	Working	Non- Captiv e	72/SEIAA, Dt.11.01.2 016	La:2120'33.30"- 2120'40.60" Lo:8404'46.30"- 8404'49.80"	OC	153200 00	15300
13	Jujom ora	Mund her Stone Quarr y-1	Mun dher	Sameer Agrawal	Badbazar, SBP, Mob No.70081 64698	16216 00022 / dt.04. 01.16	201 5-16	201 9-20	From 2015-16	Working	Non- Captiv e	4454/SEIA A, Dt.17.08.2 015	La: 2121'47.45"- 2121'58.04" N Lo:8404'22.59"- 8404'31.34"	OC	144200 00	9828
14	Jujom ora	Mund her Stone	Mun dher	Pankaj Agrawal	VSS Marg, SBP, Mob No.70086	16216 01176 / /	201 5-16	201 9-20	From 2015-16	Non- Working	Non- Captiv e	192/SEIAA , Dt.14.01.2	La:N 2122'17.10"-N 2122'23.20"	OC	129400 00	23058

		Quarry-3			78935	dt.18.03.16						016	Lo:E 8404'16.00"- E 8404'19.00"			
15	Jujomora	Munder Stone Quarry-4	Munder	Dhiraj Agrawal	VSS Marg, SBP, Mob No.8847872229	16216004455/ dt.15.12.16	2016-17	2019-20	From 2016-17	Non-Working	Non-Captive	105/DEIAA, DT.31.05.2016	La:N 2121'53.80"-N 2121'50.50" Lo:E 8404'31.42"- E 8404'25.23"	OC	3660000	4518
16	Jujomora	Munder Stone Quarry-5	Munder	Suresh agrawal	VSS Marg, SBP, Mob No.7894445123	1621602695/ dt.11.07.16	2016-17	2019-20	From 2016-17	Non-Working	Non-Captive	107/DEIAA, DT.31.05.2016	La:2121'38.44"- 2121'36.54" N Lo:8404'50.21"- 8404'51.18"	OC	4830000	5130
17	Jujomora	Dudkud Stone Quarry-1	Dudkud	Hussaini Lokhandwala	Daleipada, SBP, Mob No.9337420272	1621802487/ dt.09.08.18	2016-17	2019-20	From 2016-17	Non-Working	Non-Captive	97/DEIAA, DT.31.05.2016	La:2123'39.051" -2123'44.397" N Lo:8404'44.486' -8404'39.998"	OC	4180000	2298
18	Jujomora	Dudkud Stone Quarry-2	Dudkud	Hussaini Lokhandwala	Daleipada, SBP, Mob No.9337420272	1621802486/ dt.09.08.18	2016-17	2019-20	From 2016-17	Non-Working	Non-Captive	99/DEIAA, DT.31.05.2016	La:2123'43."- 2123'44.397" N Lo:8404'44.486' -8404'39.998"	OC	3200000	353.5
19	Jujomora	Dudkud Stone Quarry-3	Dudkud	Sachin Rabdia	Sakhipada, SBP, Mob No.8018981550	1621700433/ dt.09.02.17	2016-17	2019-20	From 2016-17	Non-Working	Non-Captive	79/DEIAA, DT.14.05.2016	La:2123'33.532" -2123'33.532" Lo:8404'35.53"- 8404'43.442"	OC	5660000	3075
20	Jujomora	Babupali Stone Quarry	Babupali	Rajendra Sharma	Hatpada, SBP, Mob No.9437058258	1621504465/ dt.22.12.15	2015-16	2019-20	From 2015-16	Working	Non-Captive	4333/SEIAA, Dt.17.08.2015	La:2122'31.30"- 2122'40.50" Lo:8404'43.60"- 8404'54.00"	OC	2063000	10296
21	Jujomora	Dhudhalmun	Dhudhal	Md. Imtiyaz	Bhutapada, SBP,	1621605309	2015-16	2019-20	From 2015-16	Non-Working	Non-Captive	70/SEIAA, Dt.11.01.2	La:2121'22.60"- 2121'31.10"	OC	1269000	6975

		da Stone Quarry-1	mun da	Sharif	Mob No.7008124708	/dt.04.04.16					e	016	Lo:8405'40.10"-8405'44.30"			
22	Jujomora	Khairmal Stone Quarry-2	Khairmal	Sarika Agrawal	VSS Marg, SBP, Mob No.7894459104	1621602678 / dt.08.07.16	2016-17	2019-20	From 2016-17	Non-Working	Non-Captive	101/DEIAA, DT.31.05.2016	La:2121'28.199"-2121'34.046" N Lo:8406'57.338'-8406'59.828"	OC	2290000	9931.5
23	Jujomora	Kusanpuri Stone Quarry	Kusanpuri	Gopal Narnolia	Tangarpali, SBP, Mob No.7608981171	1651501060 / dt.29.12.15	2015-16	2019-20	From 2015-16	Working	Non-Captive	4337/SEIAA, Dt.17.08.2015	La:2121'28.19"-2121'34.04" Lo:8406'57.33"-8406'59.82"	OC	12690000	7627.5
24	Jujomora	Barloi Stone Quarry-4	Barloi	M/s Jaiguru Stone Works, Partner Radhika Agrawal	VSS marg, SBP, Mob No.94370570063	1621801539 / dt.30.04.18	2015-16	2019-20	From 2016-17	Working	Non-Captive	17/DEIAA, DT.26.03.18	La:2119'37.24"-2119'40.73" N Lo:8404'40.36"-8404'38.90"	OC	2950000	36287
25	Kuchinda	Jamankira	22.7.2016	Rajkishor Deo	At/po-Gochhara	1.8.2016	2015-16	2019-20	1.8.2016	non-working	Non captive	73/dt-14.5.16	K.NO-183 Plot No-2119(p),2130	OC	98863	2,20,634
26	Maneswar	Labdera Stone Quarry	Labdera 31.12.15	BKD Infrastructure, Braja Kishore Das	Dhankauda, Sambalpur	12/31/2015	2015-16	2019-20	29.10.2015	Working	Non Captive	4502 dt 17.08.15	Labadera Kh No. 226,228 Plot No. 1195 (P), 1202 (P) and 1197	OC	Ac. 12.86	406255.5
27	Maneswar	Chakuli Stone Quarry-	Chakuli 22.12.15	Deepak Kumar Mishra	Ainthapali, Sambalpur	12/22/2015	2015-16	2019-20	From 19.11.2015	Working	Non captive	3992 dt 14.08.15	Mahanadi Sajya	OC	Ac. 12.50	2138.00
28	Mane	Panch	Panc	Mahak	K.G.M.	3/28/	201	202	from	Working	Non	2310	Panchfut	OC	Ac.	2520.00

	swar	fut Tangarpali Stone quarry	hfut Tangerpali 28.3 .15	Kumar Agrawal	Stone works, Panchfut Dhama	2015	6-17	0-21	26.12.2 016		captiv e	dated 13.12.16	TasngarpaliKh No. 156, 63 Plot No. 797, 374 (P)		12.53	
29	Maneswar	salesingh (B) ston quarry	Salesingh 15.1 2.15	Rajkishore Das	Modipada , SBP,	12/15 /2015	201 5-16	201 9-20	from 30.12.2 015	Working	Non captiv e	4160 dated 17.08.201 5	Salesingh KH No.229, PI 826 (P)	OC	Ac. 22.50 dec.	7200
30	Maneswar	Bhoipali Stone quarry	Bhoipali 22.1 2.15	Manoj Kumar Agrawal	Baraipali, P.O. : Baraipali, P.S. : Ainthapali , Tahasil / Dist : Sambalpu r	12/22 /2015	201 5-16	201 9-20	from 26.10.1 5	Working	Non captiv e	4893 dated 17.08.201 5	Bhoipali, Kh : 209, PI 681 , 698, 682 , 671	OC	Ac 12.68	15700
31	Maneswar	Panchfut Tangarpali Stone quarry	Panchfut Bausara 4.12 .15	Sanjiv Guru	Modipada , SBP,	12/4/ 2015	201 5-16	201 9-20	from 17.10.1 5	Working	Non captiv e	3956 dated 14.08.15	Panchfut Baunsara, Kh 156 Kh 250 PI 304, 726, 313	OC	Ac. 12.50	5370.30
32	Maneswar	partpali Stone quarry	Partpali 4.12 .15	Ashok Kumar Agrawal	LN Mishra Lane, Sambalpu r	12/4/ 2015	201 5-16	201 9-20	from 26.10.1 5	Working	Non captiv e	4110 dated 17.08.201 5	Partpali Kh 35 PI 83	OC	Ac 12.50	6115.50
33	Maneswar	Jayaghant (South ) Stone	Jayaghant 21.1 2.15	Md. Quazzafi	Sunapali, Dhankauda, Sambalpu r	12/21 /2015	201 5-16	201 9-20	from 19.10.2 015	Working	Non captiv e	4331 dated 17.08.201 5	Jayakhant Mahanadi saja	OC	Ac. 12.50	2733.75

		Quarry															
34	Maneswar	Sudunga Stone quarry	Sudunga 5.4.17	Udit prasad Babu	New Colony P.O : Budharaja , P.S : Ainthapali , Dist : Sambalpur	4/5/2017	2016-17	2020-21	from 18.3.2017	Working	Non captive	2468 dated 27.01.17	Sudanga kh 209 pl 742	OC	Ac 22.56	44244	
35	Maneswar	Khandual Stone Quarry	Khandual 4.12.15	Subhash Chandra Mahapatra	Govindtola, P.O / PS : Dhanupali , Dist : Sambalpur	12/4/2015	2016-17	2019-20	from 28.10.15	Working	Non captive	4339 dated 17.08.2015	Khandual Mahanadi Sajya	OC	Ac. 12.50	6850.35	
36	Maneswar	Salesingh (A) stone quarry	Salesingh 2.4.16	Sudhansu Mahakud	Dhanupali , Sambalpur	4/2/2016	2015-16	2019-20	from 17.10.15	Working	Non captive	4327 dated 27.8.15	Salesingh KH No.229, PI 529, 634, 605	OC	Ac. 12.96	12500	
37	Maneswar	Salesingh Stone quarry	Salesingh 2.12.16	BKD Infrastructure, Braja Kishore Das	Dhankauda, Sambalbhumi colony, Sambalpur	12/2/2016	2016-17	2020-21	from 01.10.2016	Working	Non captive	08 dated 29.04.2016	Salesingh Kh 229 pl 365	OC	Ac 8.26	8000	
38	Maneswar	Balalnga Stone Quarry	Balalnga 12.6.17	Sunil Kumar Mohapatra	Govindtola, P.O / PS : Dhanupali , Dist : Sambalpur	6/12/2017	2017-18	2021-22	from 15.05.17	Working	Non captive	164 dated 31.10.16	Balalnga kh 69 Plot No. 817, 845 (P) and 808	OC	Ac. 12.30	25380	

39	Maneswar	Balanga Stone Quarry	Balanga 1.7.16	Pankaj Kumar Agrawal	Behind of PNB, VSS Marg, Sambalpur	7/1/2016	2016-17	2019-20	from 06.06.16	Working	Non captive	30 dated 29.04.16	Balanga Kh 69 Plot No. 1154, 1192, 1199, 668, 1119,	OC	Ac . 9.19	30191
40	Maneswar	Themra Stone Quarry	Themra 16.5.17	K. Venugopal	Themra, Sambalpur	5/16/2017	2017-18	2021-22	from 01.04.17	Working	Non captive	131 dated 05.07.16	Themra, khata 516, pl 6856,6819, 7301, 7302, 7307	OC	Ac. 1.21	3400
41	Maneswar	Sudunga (A) Stone quarry	Sudunga 19.10.16	Brajendra Prasad Panda	Rengali, Sambalpur	10/19/2016	2016-17	2019-20	from 21.9.16	Working	Non captive	133 dated 05.7.16	Sudunga, kh 209, PI 826, 828, 832	OC	Ac. 5.58	11340
42	Maneswar	Tabla stone Quarry	Tabla 3.4.18	Ajay Kumar Barik	Mura, Sason Sambalpur	4/3/2018	2016-17	2019-20	from 29.1.18	Working	Non captive	143 DATED 05.7.16	Tabla, kh 504, PI 456, 434 / 2702	OC	Ac. 2.90	12400
43	Maneswar	Balanga Stone Quarry	Balanga 1.7.16	Pawanikanta Panigrahi	Sahayog Nagar, P.O : Budharaja , P.S : Ainthapali , Dist : Sambalpur	7/1/2016	2016-17	2019-20	from 26.6.2016	Working	Non captive	28 dated 29.04.16	Balanga Kh 69 Plot 449, 803, 805, 850 (P)	OC	Ac. 5.82	15288
44	Maneswar	Kudopali Stone quarry	Kudopali 7.12.16	Malaya Kumar Behera	Takba, Sambalpur	12/7/2016	2016-17	2019-20	from 01.10.2016	Working	Non captive	38 dated 29.04.16	Kudopali kh 160, pl 11, 28, 75, 109,122, 123, 21	OC	Ac . 5.72	11200
45	Naktid eul	Stone	Hikalipi/ 20.0	Aditya Narayan Paradha	Ganeshnagar, PO/PS-	741/1.04.2016	20.01.2016	31.03.2018	20.01.2016	Non-working	Non-Captive	330/14.01.2016	Lat 210 09' 09.1'' N to 210 10' 21.07'' N	OC	50884	85580



			2.20 16	n	Rairakhol								Long 840 27'14.0" E to 840 27'14.0" E and Mouza- Hikapli Khata no- 38 Kisam- Nadi Dungri Area 12.5 Ac			
46	Naktid eul	Stone	Tan dabi ra	Rakesh Kumar pradhan	Tandabira , PS- Rairakhol	22.06. 2016	22.0 6.20 16	31.0 3.20 18	22.06.2 016	Non- working	Non- Captiv e	1246/26.0 4.2016	Lat 210 15' 36.4" N to 210 15' 36.4" N Long 840 32'13.2" E to 840 32'25.7" E and Mouza- Tandabira Khata no- 160 Kisam-Parbata 270 Area .82, 274 3.90ac , 276- 3.10 Ac , 1440- 0.90Ac 1439 3.78 Ac (total 12.5 Ac)	OC	50884	658359
47	Rairak hol	Stone	Hele i,, 18.0 6.15	Neeraj Agrawal	99372043 70	1073d t. 27.03. 15	01.0 4.15	31.0 3.19	01.04.1 5	Non working	Nonca ptive	3061dt. 25.03.15	21° 03' 0.04" N to 21° 03' 09" N and 83° 15 ' 50 " E to 83° 15' 55" E.	OC	11530Sq . M (2.85 Acre)	4000
48	Rairak hol	stone	Hele i, 18.0 6.15	Neeraj Agrawal	99372043 70	1070 dt. 27.03. 15	01.0 4.15	31.0 3.19	01.04.1 5	nonworki ng	Nonca ptive	3063 dt. 25.03.15	21° 03' 0.02" N to 21° 03' 09" N and 83° 15 ' 47 " E to 83° 15' 53" E.	OC	16550Sq . M (4.09 Acre)	4000
49	Rairak hol	stone	Kus hari	Neeraj Agrawal	99372043 70	2422 dt.	27.0 7.15	31.0 3.20	27.07.1 5	working	Non captiv	3698 dt. 24.07.15	21° 04' 32.63" N to 21° 04'	OC	54106Sq . M	3760

			mun da, 19.0 8.15			27.07. 15					e		40.09'' N and 84° 16 ' 37.41 '' E to 84° 16' 50.72'' E.		(13.37 Acre	
50	Renga li	Stone	Bab uch akuli	Niteen Kumar Agrawal	Jagannath Colony, Sambalpu r, Mob- 99372998 94	2328 dt.29.6 .15	201 5-16	201 9-20	3.7.15	Wrorking	Non Captiv e	3513/SEIA A dt.22.6.15	Khata No.173, plot No.1555	OC	52000	18400
51	Renga li	Stone	Jhan karp ali	M.B. Satyan	Sakhipada , Sambalpu r, Mob9437 030788	306 dt.3.2. 15	201 5-16	201 9-20	19.4.16	Wrorking	Non Captiv e	SEIAA/138 dt.12.1.16	Khata No.393, plot No.4922(p)	OC	51000	103080
52	Renga li	Stone	Bara dun gri	Naveen Mishra	Jhanda Chowk, Jharsugud a, Mob- 82491455 67	459 dt.9.2. 15	201 5-16	201 9-20	3.6.16	Wrorking	Non Captiv e	75/DEIAA dt.14.5.16	Khata No.299, Plot No.902, 903, 4	OC	15200	8780
53	Renga li	Stone	Brah man ipali	M.B. Satyan	Sakhipada , Sambalpu r, Mob9437 030788	2881 dt.8.7. 16	201 5-16	201 9-20	19.8.16	Wrorking	Non Captiv e	77/DEIAA dt.14.5.20 16	Khata No.416, plot No.2530	OC	7680	2640
54	Renga li	Stone	Ren gali	Ramesh Kumar Agrawal, R/o.Reng ali (Lease period over)		As per Order of Hon'bl e High Court in WPC	201 3-14	201 7-18	16.7.13	Not working	Non Captiv e	5741/SEIA A dt.09.7.13	Khata No.502 Plot No.66	OC	19800	21272

						No.17 726 /2011										
55	Rengali	Stone	Babuchakuli	Pradeep Kumar Agrawal, Rengali, (Lease period over), Mob-9938011010			2014-15	2018-19	7.3.14	Not working	Non Captive	3511 /SEIAA dt.22.6.15	Khata No.172 plot No.1727	OC	40240	11425
56	Rengali	Stone	Salad	Anil Kumar Agrawal, Rengali, Sambalpur, Mob-9937688777		1560 dt.21.8.2010	2010-11	2019-20	24.8.10	Working	Non Captive	3245/SEIAA dt.20.5.15	Kh-126/108, pl-425/2351, Kh-126/89, pl-425/2028, 425/2302, Kh-126/182, pl-425/2507, Kh-126/183 Pl-425/2512, Kh-126/123 Pl-425/2368, Kh-126/144 Pl-1951/2401, Kh-126/166 Pl-425/2468, pl-1951/2469, Kh-126/126 Pl-19542372, Kh-126/127 Pl-1954, Pl-425/2373	OC	31400	45362
57	Sadar	Sikirdi Stone	Sikirdi	Niteen Ku.	At-Jagannath	22.12.17	22:12:17	22:12:22	29.12.2017	Working	Non-Cap	152/25.10 .2016 of	Sikirdi Khata No-160	OC	4.98hec t	31000

		Quarry No-2	Dtd. 14.03.18	Agrawal	Colony, Budharaja, Sambalpur	Order No-10127/29.12.17					live	DEIAA,SBP	Plot No-1737,1745,1764 (p)			
58		Sikirdi Stone Quarry No-3	Sikirdi Dtd. 14.03.18	Niteen Ku. Agrawal	At-Jagannath Colony, Budharaja, Sambalpur	22.12.17 Order No-10127/29.12.17	22:12:17	22:12:22	29.12.2017	Working	Non-Cap live	271/SEIAA 14.01.16	Sikirdi Khata No-160 Plot No-1781,1784	OC	5.06hect	29750
59		Sikirdi Stone Quarry No-4	Sikirdi Dtd. 08.06.18	Neeraj Agrawal	At-Jagannath Colony, Budharaja, Sambalpur	31.03.18 L.N-2276/31.03.18	31:03:18	31.03.2023	31:03:18	Working	Non-Cap live	3766/SEIAA 14.01.16	Sikirdi Khata No-160 Plot No-1781(p) 1779,1764	OC	5.07 hect	353623
60		Talab Stone Quarry No-1	Talab 20.3.18	Neeraj Agrawal	At-Jagannath Colony, Budharaja, Sambalpur	29.12.17 Order No-10125/29.12.17	22:12:17	22:12:22	29.12.2017	Working	Non-Cap live	93/DEIAA 31.05.2016	Talab Khata No-751 plot No-1443	OC	2.10hect	18288
61		Talab Stone Quarry No-2	Talab 20.3.18	Neeraj Agrawal	At-Jagannath Colony, Budharaja, Sambalpur	29.12.17 Order No-10126/29.12.17	22:12:17	22:12:22	29.12.2017	Working	Non-Cap live	65/DEIAA/ 14.5.16	Talab Khata No-751 plot No-2153	OC	0.72 hect	6818
62		Jamadarपालि stone quarry	Jamadarपालि 20.0	Niteen Ku. Agrawal	At-Jagannath Colony, Budharaja	Order No-7018/	20:07:16	20:07:21	30:03:16	Working	Non-Cap live	63/DEIAA/ 15.04.15	Jamadarपालि Khata No-239 Plot-752	OC	5 hect.	11490

			8.16		,Sambalpur	20.07.16										
63		Raghu nathpali Stone quarry	Rag hun athpali 07.0 6.16	Bijay Ku. Trivedi	At/Po- Khetrajpu r, Sambalpu r	Order No- 4860/ 22.5.1 5	22:0 5:15	31:0 3:20	22:05:1 5	Working	Non- Cap live	168/SEIAA / 14.01.16	Raghu nathpali Khata No-50 Plot-25	OC	5 .10 hect.	10296
64		Talab Stone Quarr y-1A	Tala b 31.0 8.12	Neeraj Agrawal	At- Jagannath Colony, Budharaja ,Sambalp ur	Order No- 4513/ 19.07. 12	1:04 :13	31:0 3:22	19:07:1 2	Working	Non- Cap live	4313/SEIA A 10.06.13	Talab Khata No-751 plot No-1443 Ac.5.50dec	OC	2.226 hect	—
65		Talab Stone Quarr y-2A	Tala b 31.0 8.12	Neeraj Agrawal	At- Jagannath Colony, Budharaja ,Sambalp ur	Order No- 4517/ 19.07. 12	1:04 :13	31:0 3:22	19:07:1 2	Working	Non- Cap live	4315/SEIA A 10.06.13	Talab Khata No-751 plot No-1443 Ac.12.40dec	OC	5.02 hect	—
66		Talab Stone Quarr y-6	Tala b 29.0 9.12	Bishal lal Agrawal Niteen Ku. Agrawal	At- Jagannath Colony, Budharaja ,Sambalp ur	Order No- 5925/ 01.10. 12 7865/ 15.08. 16	1.04 .13 19.0 2.16	30.0 8.16 31.0 3.22	14.09.1 2 1.09.16	Working	Non- Cap live	4309/SEIA A 10.06.13	Talab Khata No-751 plot No-1443 Ac.6.05dec	OC	2.45 hect	—



## ANNEXURE II

## FOR SOURCES ALREADY AUCTIONED BUT NOT EXECUTED (LOI ISSUED)

Sl. No.	Name of Tahasil	Name of village	Name of Minor Mineral	Name of the Successful auction holder	Address & Contact No of Letter of Intent Holder	Letter of Intent Grant Order No. & date	Validity of Loi	Use Captive/Non-Captive)	Location of the Source recommended for mineral concession (GPS co-ordinates or Khata & Plot No) (Sketch map to be attached)	Area of the mineral potential patch (in sq m)	Average height of potential patch (in m)	Mineable mineral potential (in cum)
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Jujomora	Hatibari	hatibari Stone quarry-5, 6.55 Ha	M/S Gayatri Projects Ltd.	Gadgad bahal, Jujomura, SBP, Mob No.700 861431 1			Non-captive	La:2120'53.00"-2121'02.6" N Lo:8404'49.2"-8404'53.9"	65437.66		
2	Jujomora	Hiro	Hiro Sand Quarry	Md Hussain	Motijharan, SBP, Mob No.750 488564 1			Non-captive	La:2122'40.50"-2123'39.90" N Lo:8404'59.10"-8410'21.10"	51030.85		
3	Manesar	Salesingh	Salesingh Stone Quarry 5 Ha			2255 dt. 9.12.15		Non captive	Salesng Khata No.229 pl.668			
4	Manesar	Salesng	Salesingh Stone Quarry 5 Ha					Non Captive	Salesingh Kh.229 Plot.826(1), 826(2)			
5	Manesar	Baduapal	Baduapali Stone Quarry 3.28 Ha					Non Captive	Baduapali Khata. 258 Pl.367			
6	Manesar	Pudapara	Pudapara Stone Quarry 2.42 Ha.					Non Captive	Pudapara Khata 125 pl.177			

7	Rairakhol	Kusharimunda	Stone, Area in Ha.5.17	Neeraj Agrawal	At-J.M Coloney , Budhara j,, Sambal pur, Mob-9937204370	1371 dt. 25.05.18	Five years	Non captive	21° 04' 32.63" N to 21° 04' 40.09" N and 84° 16 ' 37.41 " E to 84° 16' 50.72" E.	Ac. 12.77, 51678 Sq. M		19090
8	Rengali	Tabadabahal	Tabadabahal Stone quarry -1	M/s.Sumi Trading through Braja kishor Das	Dhankanda, Sambal pur, Mob-9937437465	1603 dt.22.5.2018	5 Years	Captive	kh No.348/195, pl no.780, 781/1349, kh no.348/300, pl no.784, Kh no.55 pl no.782, Kh no.348/241 pl no.738, Kh no..348/196 pl no.774, Kh no.348/198 pl no.727	352660		352660
9	Rengali	Tabadabahal	Tabadabahal Stone quarry -2	M/s.Sumi Trading through Braja kishor Das	Dhankanda, Sambal pur, Mob-9937437465	1602 dt.22.5.188	5 Years	Captive	Kh no.348/300 pl no.856, 854, Kh no.348/242 pl no.857, Kh no.348/197 pl no.752	25024		25024
10	Rengali	Tabadabahal	Tabadabahal Stone quarry -5	M/s.Balaji Engicons Pvt Ltd throgh Sushil Ku Agrawal	Belpahad, Jharsuguda, Mob-9937090719	1601 dt.22.5.2018	5 Years	Captive	Kh No.348/231 pl no.747, 748, Kh no.348/225 pl no.749, Kh no.348/226 pl no.753, 756, kh no.348/223 pl no.754, kh no.348/229 pl no.755	400176		400176
11	Rengali	Tabadabahal	Tabadabahal Stone quarry -4	M/s.Balaji Engicon	Belpahad, Jharsug	1600 dt.22.5.2018	5 Years	Captive	Kh no.348/226 pl no.758, 763/1364, Kh no.348/221 pl	500310		500310



				s Pvt Ltd throgh Sushil Ku Agrawa l	uda, Mob- 993709 0719				no.760, 763/1184, kh no.348/220 pl no.760/1364, Kh no.348/230 pl no.761, 762, Kh no.348/225 pl no.763, 765			
11	Sadar	Sikirdi Stone Quarry No-2	Niteen Ku. Agrawal	At- Jaganna th Colony, Budhar aja,Sam balpur	22.12.1 7 Order No- 10127/2 9.12.17		5 years	Non Captive	Lat-21 27 27.03 to 21 27 14.3/ Lon-83 55 1.9 to 83 55 0.1	4.98hect		
12	Sadar	Sikirdi Stone Quarry No-3	Niteen Ku. Agrawal	At- Jaganna th Colony, Budhar aja,Sam balpur	22.12.1 7 Order No- 10127/2 9.12.17		5 years	Non Captive	Lat-2126 4.6 to 21 55 12.2/ Lon-83 55 2.5 to 83 55 12.2	5.06hect		
13	Sadar	Sikirdi Stone Quarry No-4	Neeraj Agrawal	At- Jaganna th Colony, Budhar aja,Sam balpur	31.03.1 8 L.N- 2276/31 .03.18		5 years	Non Captive	Lat-21 27 11.8 to 21 27 21.8/ Lon-83 55 12.6 to 83 55 12.16	5.07 hect		
14	Sadar	Talab Stone Quarry No-1	Neeraj Agrawal	At- Jaganna th Colony, Budhar aja,Sam balpur	29.12.1 7 Order No- 10125/2 9.12.17		5 years	Non Captive	Lat-21 32 33.58 to 21 32 41.27/ Lon-83 59 33.43to 83 59 42.26	2.10hect		
15	Sadar	Talab Stone Quarry No-2	Neeraj Agrawal	At- Jaganna th Colony, Budhar aja,Sam	29.12.1 7 Order No- 10126/2 9.12.17		5 years	Non Captive	Lat-21 32 19.52 to 21 32 22.15/ Lon-84 0 7.58 to 84 0 7.58	0.72 hect		

				balpur								
16	Sadar	Jamadar pali stone quarry	Niteen Ku. Agrawal	At- Jaganna th Colony, Budhar aja,Sam balpur	Order No- 7018/20 .07.16		5 years	Non Captive	Lat-21 32 22.56 to 21 32 31.56/ Lon-83 57 59.53 to 83 56 11.6	5 hect.		
17	Sadar	Raghu nathpali Stone quarry	Bijay Ku. Trivedi	At/Po- Khetraj pur, Sambal pur	Order No- 4860/22 .5.15		5 years	Non Captive	Lat-21 26 35.4 to 21 26 41.1/ Lon-83 55 54.4 to 83 56 1.5	5 .10 hect.		
18	Sadar	Talab Stone Quarry- 1A	Neeraj Agrawal	At- Jaganna th Colony, Budhar aja,Sam balpur	Order No- 4513/ 19.07.1 2		9 years	Non Captive	Lat-21 32 32.8 to 21 32 40.6/ Lon-83 59 18.2 to 83 59 22.4	2.226 hect		
19	Sadar	Talab Stone Quarry- 2A	Neeraj Agrawal	At- Jaganna th Colony, Budhar aja,Sam balpur	Order No- 4517/19 .07.12		9 years	Non Captive	Lat-21 32 33.1 to 21 32 42/ Lon-83 59 24.8 to 83 59 34.1	5.02 hect		
20	Sadar	Talab Stone Quarry- 6	Bishal lal Agrawal Niteen Ku. Agrawal	At- Jaganna th Colony, Budhar aja,Sam balpur	Order No- 5925/01 .10.12 7865/15 .08.16		9 years	Non Captive	Lat-21 32 33 to 21 32 41.2/ Lon-83 59 21.2 to 83 59 25.9	2.45 hect		

**ANNEXURE III**

**POTENTIAL ROAD METAL/ BLACKSTONE/WHITESTONE SOURCES IN THE DISTRICT**

Sl. No.	Name of Tahasil	Name of village	Status	Name of Minor Mineral	Location of the Source (Total Hillock) recommended for mineral concession (GPS co-ordinates or Khata & Plot No) (Sketch map to be attached)	Area of the mineral potential patch (in sq m)	Mineable mineral potential (in cum)
1	2	3	4	5	6	7	9
1	Bamra	Mahulpali	New	Mahulpali Stone Quarry	Khata No-159, plot No.177,623,671;UTM(231448.5E,2419735.0N)	55282	521490
2	Bamra	Dangajore	Running	Stone	Kh No.98, Pl No. 1345,1346,1359,1394.	12626	43125
3	Bamra	Lariapali	Running	Stone	Kh no- 75 , Pl no 76	4452	13500
4	Bamra	Rengalbeda	Running	Stone	Kh No. 100,101 Pl no. 175,129,	8296	11185
5	Bamra	Gurla	Running	Stone	Kh No 216, Pl No. 169,171,384	18048	64130
6	Bamra	Dumku	Running	Stone	Khata No.61,Plot No.501	45931	237885
7	Bamra	Bamphei	Running	Stone	Khata No.222, Plot No.799,1807,799/2700, 799/2702	25172	216555
8	Jamankira	Saledunguri	Running	Stone	Khata No- 80 Plot-20/1234 & 34/1235 Khata No. 10 Plot-31	Ac.0.909	3150
9	Jamankira	Badbalimal, Mahijoria	Running	Stone	La:2120'35.60"- 2120'41.00" Lo:8405'48.20"- 8405'57.90"	1250000 0	359617.5

10	Jujomora	Hatibari	Running	Hatibari Stone Quarry-1	La:2120'35.60"- 2120'41.00" Lo:8405'48.20"- 8405'57.90"	1250000 0	359617.5
11	Jujomora	Barloi	Running	Barloi Stone Quarry-2	La:2119'22.68"- 2119'30.17" N Lo:8404'57.80"- 8405'06.55"	1310000	6306
12	Jujomora	Hatibari	Running	Hatibari Stone Quarry-3	La:2120'35.10"- 2120'48.50" Lo:8404'51.00"- 8405'03.20"	2164000 0	11250
13	Jujomora	Hatibari	Running	Hatibari Stone Quarry-4	La:2120'33.30"- 2120'40.60" Lo:8404'46.30"- 8404'49.80"	1532000 0	15300
14	Jujomora	Mundher	Running	Mundher Stone Quarry-1	La: 2121'47.45"- 2121'58.04" N Lo:8404'22.59"- 8404'31.34"	1442000 0	9828
15	Jujomora	Mundher	Running	Mundher Stone Quarry-3	La:N 2122'17.10"-N 2122'23.20" Lo:E 8404'16.00"- E 8404'19.00"	1294000 0	23058
16	Jujomora	Mundher	Running	Mundher Stone Quarry-4	La:N 2121'53.80"-N 2121'50.50" Lo:E 8404'31.42"- E 8404'25.23"	3660000	4518
17	Jujomora	Mundher	Running	Mundher Stone Quarry-5	La:2121'38.44"- 2121'36.54" N Lo:8404'50.21"- 8404'51.18"	4830000	5130
18	Jujomora	Dudkakud	Running	Dudkakud Stone Quarry-1	La:2123'39.051"- 2123'44.397" N Lo:8404'44.486"- 8404'39.998"	4180000	2298
19	Jujomora	Dudkakud	Running	Dudkakud Stone Quarry-2	La:2123'43."- 2123'44.397" N Lo:8404'44.486"- 8404'39.998"	3200000	353.5
20	Jujomora	Dudkakud	Running	Dudkakud	La:2123'33.532"-	5660000	3075

				Stone Quarry-3	2123'33.532" Lo:8404'35.53"- 8404'43.442"		
21	Jujomora	Babupali	Running	Babupali Stone Quarry	La:2122'31.30"- 2122'40.50" Lo:8404'43.60"- 8404'54.00"	2063000 0	10296
22	Jujomora	Dhudhalmunda	Running	Dhudhalmunda Stone Quarry-1	La:2121'22.60"- 2121'31.10" Lo:8405'40.10"- 8405'44.30"	1269000 0	6975
23	Jujomora	Khairmal	Running	Khairmal Stone Quarry-2	La:2121'28.199"- 2121'34.046" N Lo:8406'57.338"- 8406'59.828"	2290000	9931.5
24	Jujomora	Kusanpuri	Running	Kusanpuri Stone Quarry	La:2121'28.19"- 2121'34.04" Lo:8406'57.33"- 8406'59.82"	1269000 0	7627.5
25	Jujomora	Barloi	Running	Barloi Stone Quarry-4	La:2119'37.24"- 2119'40.73" N Lo:8404'40.36"- 8404'38.90"	2950000	36287
26	Jujomora	Hatibari	LOI Issued	hatibari Stone quarry-5, 6.55 Ha	La:2120'53.00"- 2121'02.6" N Lo:8404'49.2"- 8404'53.9"	65437.66	80000
27	Jujomora	Hiro	LOI Issued	Hiro Sand Quarry	La:2122'40.50"- 2123'39.90" N Lo:8404'59.10"- 8410'21.10"	51030.85	63000
28	Kuchinda	Dansanadhipi	New	Stone Ac-3.89	K.NO-57 plot No-160(p),161(p)	126808	1,10,900
29	Kuchinda	Pandiadhipa	New	Stone Ac-5.058	K.No-61 Plot No-146(p)	164772	4,40,583
30	Kuchinda	Rangiatikir	New	stone Ac-3.095	K.No-68,Plot No-229	100840	263844
31	Kuchinda	jamankira	Running	Stone Ac-3.035	K.No-183,Plot No-2119,2130	98863	2,20,634
32	Maneswar	Labdera 31.12.15	Running	Labdera Stone Quarry	Labadera Kh No. 226,228 Plot No. 1195	Ac. 12.86	406255.5

					(P), 1202 (P) and 1197		
33	Maneswar	Chakuli 22.12.15	Running	Chakuli Stone Quarry-	Mahanadi Sajya	Ac. 12.50	2138.00
34	Maneswar	Panchfut Tanger pali 28.3.15	Running	Panchfut Tangarpali Stone quarry	Panchfut TasngarpaliKh No. 156, 63 Plot No. 797, 374 (P)	Ac. 12.53	2520.00
35	Maneswar	Salesingh 15.12.15	Running	salesingh (B) ston quarry	Salesingh KH No.229, PI 826 (P)	Ac. 22.50 dec.	7200
36	Maneswar	Bhoipali22. 12.15	Running	Bhoipali Stone quarry	Bhoipali, Kh : 209, PI 681 , 698, 682 , 671	Ac 12.68	15700
37	Maneswar	Panchfut Baunsara 4.12.15	Running	Panchfut Tangarpali Stone quarry	Panchfut Baunsara, Kh 156 Kh 250 PI 304, 726, 313	Ac. 12.50	5370.30
38	Maneswar	Patpali 4.12.15	Running	partpali Stone quarry	Partpali Kh 35 PI 83	Ac 12.50	6115.50
39	Maneswar	Jayaghant 21.12 15	Running	Jayaghant (South) Stone Quarry	Jayakhant Mahanadi saja	Ac. 12.50	2733.75
40	Maneswar	Sudunga 5.4.17	Running	Sudunga Stone quarry	Sudanga kh 209 pl 742	Ac 22.56	44244
41	Maneswar	Khandual 4.12.15	Running	Khandual Stone Quarry	Khandual Mahanadi Sajya	Ac. 12.50	6850.35
42	Maneswar	Salesingh 2.4.16	Running	Salesingh (A) stone quarry	Salesingh KH No.229, PI 529, 634, 605	Ac. 12.96	12500
43	Maneswar	Salesingh 2.12.16	Running	Salesingh Stone quarry	Salesingh Kh 229 pl 365	Ac 8.26	8000
44	Maneswar	Balalnga 12.6.17	Running	Balalnga Stone Quarry	Balalnga kh 69 Plot No. 817, 845 (P) and 808	Ac. 12.30	25380
45	Maneswar	Balalnga 1.7.16	Running	Balalnga Stone Quarry	Balanga Kh 69 Plot No. 1154, 1192, 1199, 668, 1119,	Ac . 9.19	30191
46	Maneswar	Themra 16.5.17	Running	Themra Stone Quarry	Themra, khata 516, pl 6856,6819, 7301, 7302, 7307	Ac. 1.21	3400
47	Maneswar	Sudunga 19.10.16	Running	Sudunga (A) Stone quarry	Sudunga, kh 209, PI 826, 828, 832	Ac. 5.58	11340
48	Maneswar	Tabla 3.4.18	Running	Tabla stone Quarry	Tabla, kh 504, PI 456, 434 / 2702	Ac. 2.90	12400
49	Maneswar	Balalnga	Running	Balalnga	Balalnga Kh 69 Plot 449,	Ac. 5.82	15288

		1.7.16		Stone Quarry	803, 805, 850 (P)		
50	Maneswar	Kudopali 7.12.16	Running	Kudopali Stone quarry	Kudopali kh 160, pl 11, 28, 75, 109,122, 123, 21	Ac . 5.72	11200
51	Maneswar	Salesingh	LOI Issued	Salesingh Stone Quarry 5 Ha	Salesng Khata No.229 pl.668	12	60000
52	Maneswar	Salesng	LOI Issued	Salesingh Stone Quarry 5 Ha	Salesingh Kh.229 Plot.826(1), 826(2)	12	60000
53	Maneswar	Baduapal	LOI Issued	Baduapali Stone Quarry 3.28 Ha	Baduapali Khata. 258 Pl.367	8	40000
54	Maneswar	Pudapara	LOI Issued	Pudapara Stone Quarry 2.42 Ha.	Pudapara Khata 125 pl.177	5.97	29850
55	Naktideul	Hikapali/ 20.02.2016	Running	Stone	Lat 210 09' 09.1" N to 210 10' 21.07" N Long 840 27'14.0" E to 840 27'14.0" E and Mouza- Hikapli Khata no- 38 Kisam- Nadi Dungri Area 12.5 Ac	50884	85580
56	Naktideul	Tandabira	Running	Stone	Lat 210 15' 36.4" N to 210 15' 36.4" N Long 840 32'13.2" E to 840 32'25.7" E and Mouza- Tandabira Khata no- 160 Kisam-Parbata 270 Area .82, 274 3.90ac , 276- 3.10 Ac , 1440- 0.90Ac 1439 3.78 Ac (total 12.5 Ac)	50884	658359
57	Rairakhol	Kusharimu nda	LOI Issued	Stone, Area in Ha.5.17	21° 04' 32.63" N to 21° 04' 40.09" N and 84° 16' 37.41 " E to 84° 16' 50.72" E.	Ac. 12.77, 51678 Sq. M	19090
58	Rairakhol	Helei,, 18.06.15	Running	Stone	21° 03' 0.04" N to 21° 03' 09" N and 83° 15 ' 50 " E to 83° 15' 55" E.	11530Sq. M (2.85 Acre)	4000
59	Rairakhol	Helei, 18.06.15	Running	stone	21° 03' 0.02" N to 21° 03' 09" N and 83° 15 '	16550Sq. M (4.09	4000

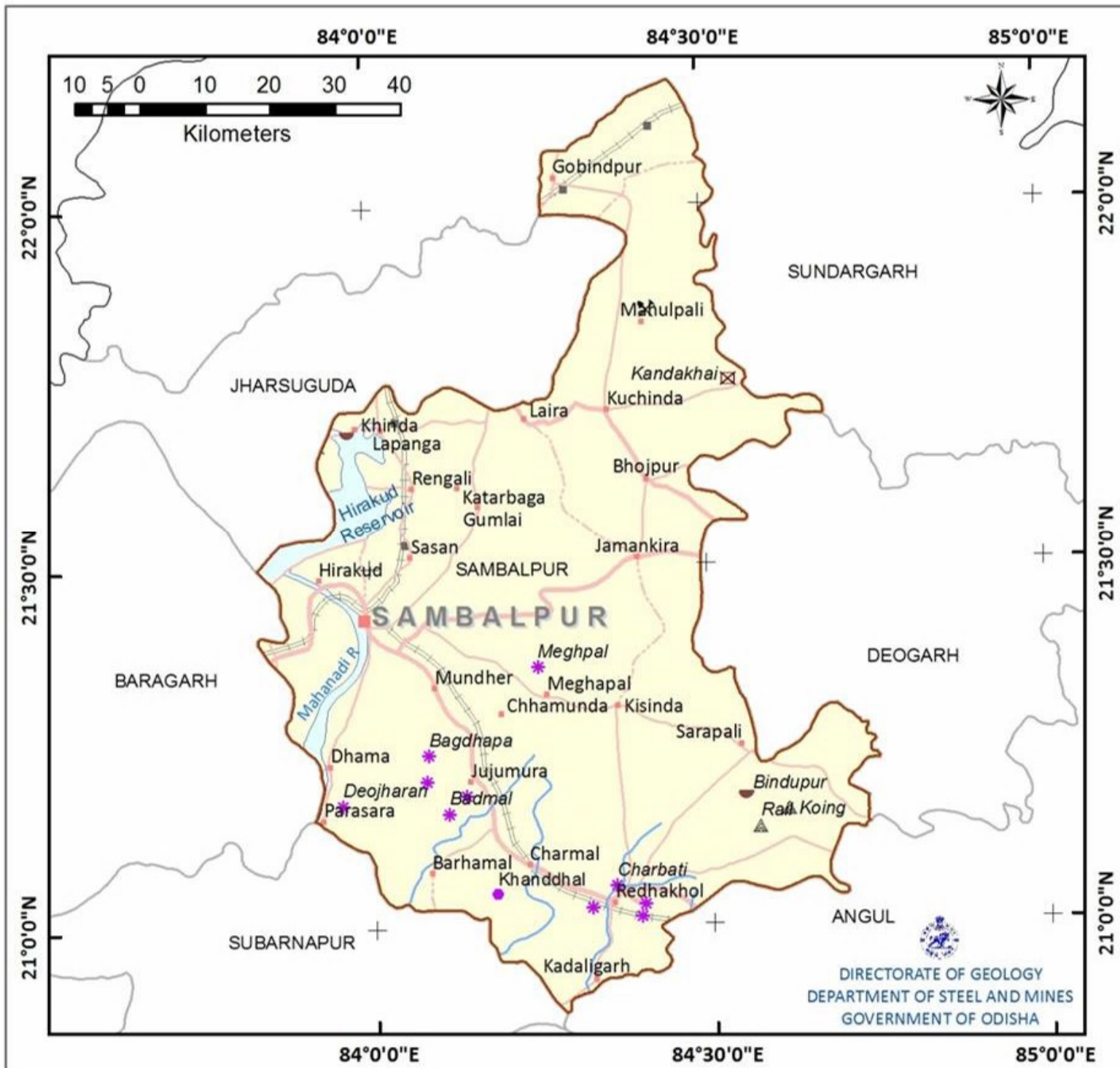
					47 " E to 83° 15' 53" E.	Acre)	
60	Rairakhol	Kusharimunda, 19.08.15	Running	stone	21° 04' 32.63" N to 21° 04' 40.09" N and 84° 16' 37.41 " E to 84° 16' 50.72" E.	54106Sq. M (13.37 Acre	3760
61	Rengali	Babuchakuli	Running	Stone	Khata No.173, plot No.1555	52000	18400
62	Rengali	Jhankarpali	Running	Stone	Khata No.393, plot No.4922(p)	51000	103080
63	Rengali	Baradungri	Running	Stone	Khata No.299, Plot No.902, 903, 4	15200	8780
64	Rengali	Brahmanipali	Running	Stone	Khata No.416, plot No.2530	7680	2640
65	Rengali	Rengali	Running	Stone	Khata No.502 Plot No.66	19800	21272
66	Rengali	Babuchakuli	Running	Stone	Khata No.172 plot No.1727	40240	11425
67	Rengali	Salad	Running	Stone	Kh-126/108, pl-425/2351, Kh-126/89, pl-425/2028, 425/2302, Kh-126/182, pl-425/2507, Kh-126/183 PI-425/2512, Kh-126/123 PI-425/2368, Kh-126/144 PI-1951/2401, Kh-126/166 PI-425/2468, pl-1951/2469, Kh-126/126 PI-19542372, Kh-126/127 PI-1954, PI-425/2373	31400	45362
68	Rengali	Tabadabahal	LOI Issued	Tabadabahal Stone quarry -1	kh No.348/195, pl no.780, 781/1349, kh no.348/300, pl no.784, Kh no.55 pl no.782, Kh no.348/241 pl no.738, Kh no..348/196 pl no.774, Kh no.348/198 pl no.727	352660	352660
69	Rengali	Tabadabahal	LOI Issued	Tabadabahal Stone quarry -2	Kh no.348/300 pl no.856, 854, Kh no.348/242 pl no.857,	25024	25024











					Kh no.348/197 pl no.752		
70	Rengali	Tabadabahal	LOI Issued	Tabadabahal Stone quarry -5	Kh No.348/231 pl no.747, 748, Kh no.348/225 pl no.749, Kh no.348/226 pl no.753, 756, kh no.348/223 pl no.754, kh no.348/229 pl no.755	400176	400176
71	Rengali	Tabadabahal	LOI Issued	Tabadabahal Stone quarry -4	Kh no.348/226 pl no.758, 763/1364, Kh no.348/221 pl no.760, 763/1184, kh no.348/220 pl no.760/1364, Kh no.348/230 pl no.761, 762, Kh no.348/225 pl no.763, 765	500310	500310
72	Sadar	Sikirdi	LOI Issued	Sikirdi Stone Quarry No-2	Lat-21 27 27.03 to 21 27 14.3/ Lon-83 55 1.9 to 83 55 0.1	4.98hect	60000
73	Sadar	Sikirdi	LOI Issued	Sikirdi Stone Quarry No-3	Lat-2126 4.6 to 21 55 12.2/ Lon-83 55 2.5 to 83 55 12.2	5.06hect	62500
74	Sadar	Sikirdi	LOI Issued	Sikirdi Stone Quarry No-4	Lat-21 27 11.8 to 21 27 21.8/ Lon-83 55 12.6 to 83 55 12.16	5.07 hect	62600
75	Sadar	Talab	LOI Issued	Talab Stone Quarry No-1	Lat-21 32 33.58 to 21 32 41.27/ Lon-83 59 33.43to 83 59 42.26	2.10hect	24800
76	Sadar	Talab	LOI Issued	Talab Stone Quarry No-2	Lat-21 32 19.52 to 21 32 22.15/ Lon-84 0 7.58 to 84 0 7.58	0.72 hect	8850
77	Sadar	Jamadarपालि	LOI Issued	Jamadarपालि stone quarry	Lat-21 32 22.56 to 21 32 31.56/ Lon-83 57 59.53 to 83 56 11.6	5 hect.	61775

78	Sadar	Raghunathpali	LOI Issued	Raghunathpali Stone quarry	Lat-21 26 35.4 to 21 26 41.1/ Lon-83 55 54.4 to 83 56 1.5	5 .10 hect.	61775
79	Sadar	Talab	LOI Issued	Talab Stone Quarry-1A	Lat-21 32 32.8 to 21 32 40.6/ Lon-83 59 18.2 to 83 59 22.4	2.226 hect	27500
80	Sadar	Talab	LOI Issued	Talab Stone Quarry-2A	Lat-21 32 33.1 to 21 32 42/ Lon-83 59 24.8 to 83 59 34.1	5.02 hect	61775
81	Sadar	Talab	LOI Issued	Talab Stone Quarry-6	Lat-21 32 33 to 21 32 41.2/ Lon-83 59 21.2 to 83 59 25.9	2.45 hect	27800
82	Sadar	Sikirdi Dtd.14.03.18	Running	Sikirdi Stone Quarry No-2	Sikirdi Khata No-160 Plot No- 1737,1745,1764(p)	4.98hect	31000
83	Sadar	Sikirdi Dtd.14.03.18	Running	Sikirdi Stone Quarry No-3	Sikirdi Khata No-160 Plot No- 1781,1784	5.06hect	29750
84	Sadar	Sikirdi Dtd.08.06.18	Running	Sikirdi Stone Quarry No-4	Sikirdi Khata No-160 Plot No-1781(p) 1779,1764	5.07 hect	353623
85	Sadar	Talab 20.3.18	Running	Talab Stone Quarry No-1	Talab Khata No-751 plot No-1443	2.10hect	18288
86	Sadar	Talab 20.3.18	Running	Talab Stone Quarry No-2	Talab Khata No-751 plot No-2153	0.72 hect	6818
87	Sadar	Jamadarpali 20.08.16	Running	Jamadarpali stone quarry	Jamadarpali Khata No-239 Plot-752	5 hect.	11490
88	Sadar	Raghunathpali 07.06.16	Running	Raghunathpali Stone quarry	Raghunathpali Khata No-50 Plot-25	5 .10 hect.	10296

# MINERAL MAP OF SAMBALPUR DISTRICT



## Legend

- |   |                   |   |                 |
|---|-------------------|---|-----------------|
|  | District Boundary |  | Railway Line    |
|  | National Highway  |  | Railway Station |
|  | Minor Road        |  | River           |
|  | Major Road        |  | Waterbody       |

## Mineral Occurrence

- |   |                 |
|---|-----------------|
|  | Coal            |
|  | Dimension Stone |
|  | Fireclay        |
|  | Gemstone        |

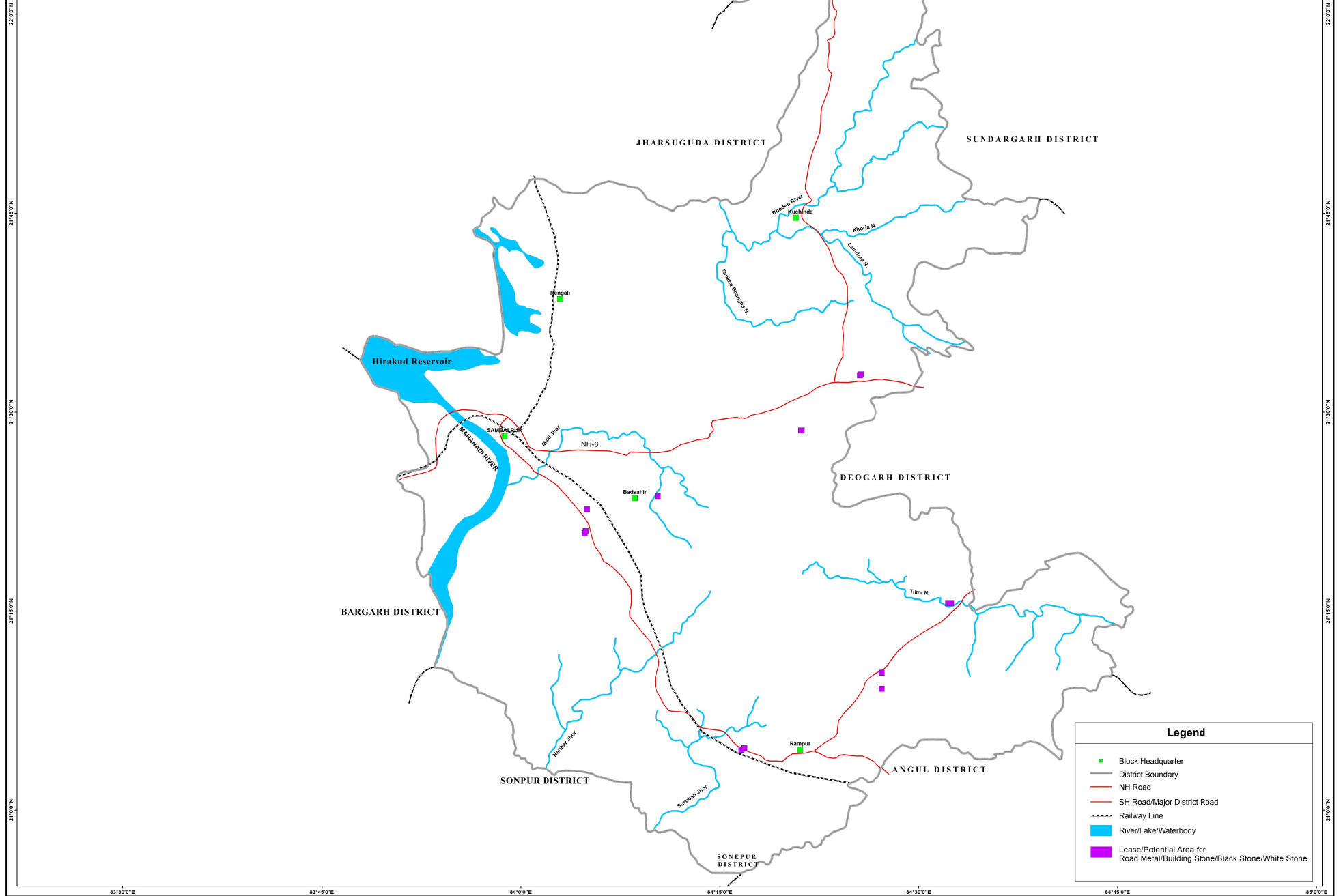
# LEASE/POTENTIAL MAP OF ROAD METAL/BUILDING STONE/BLACK STONE/ WHITE STONE IN SAMBALPUR DISTRICT

SCALE: 1:110,000

0 5 10 15 20 25 30 35 40  
Kilometers



PLATE NO-5



Legend	
<span style="color: green;">■</span>	Block Headquarter
<span style="border: 1px solid grey; display: inline-block; width: 10px; height: 10px;"></span>	District Boundary
<span style="color: red; font-weight: bold;">—</span>	NH Road
<span style="color: orange; font-weight: bold;">—</span>	SH Road/Major District Road
<span style="border-bottom: 1px dashed black; display: inline-block; width: 10px;"></span>	Railway Line
<span style="color: blue; font-weight: bold;">—</span>	River/Lake/Waterbody
<span style="color: purple; font-weight: bold;">■</span>	Lease/Potential Area for Road Metal/Building Stone/Black Stone/White Stone