DRAFT DISTRICT SURVEY REPORT OF

NUAPADA DISTRICT, ODISHA

FOR ROAD METAL / STONE

(For Planning & Exploitation of Minor Mineral Resources)

As per Notification No. S.O. 3611(E), date 25th July, 2018

Of

Ministry of Environment, Forest & Climate Change, Govt. of India, New Delhi

COLLECTORATE, NUAPADA

COLLECTOR, NUAPADA

CONTENT

Sl No	Description	Page No.
1	Introduction	5-7
2	Overview of Mining Activity	7-8
3	General Profile of the District	8
4	Geology of the District	9
5	Drainage of Irrigation Pattern	9-10
6	Land Utilization pattern in the District	10-17
7	Surface water & Ground water Scenario	17-18
8	Rainfall of the District and climatic Condition	18-19
9	Details of the Mining leases in the District	19
10	Details of Royalty or Revenue received in last three years	19-21
11	Details of Production of Minor mineral in last three years	21-23
12	Mineral map of the District	23
13	List of letter of Intent (LOI) holder in the District along with its validity	24
14	Total mineral reserve available in the district	24-26
15	Quality / grade of minerals available in the district	26
16	Use of mineral	27
17	Demand and supply of the mineral in last three years	27
18	Mining leases marked on the map of the district	28
19	Details of the area of where there is a cluster of mining lease	29
20	Details of Eco-sensitive area	29-30
21	Impact of Environment (Air, water, soil)	30-31
22	Remedial measures to mitigate the impact of mining on Environment	31-32
23	Reclamation of mined out area	32
24	Risk Assessment & Disaster Management Plan	33
25	Details of Occupational Health issues in the District (Last five year data of number of patients of Silicosis & tuberculosis)	34
26	Plantation and green belt development in respect of leases already granted	34-35
27	Any other information	

LOCATION AND COMMUNICATION MAP OF NUAPADA DISTRICT

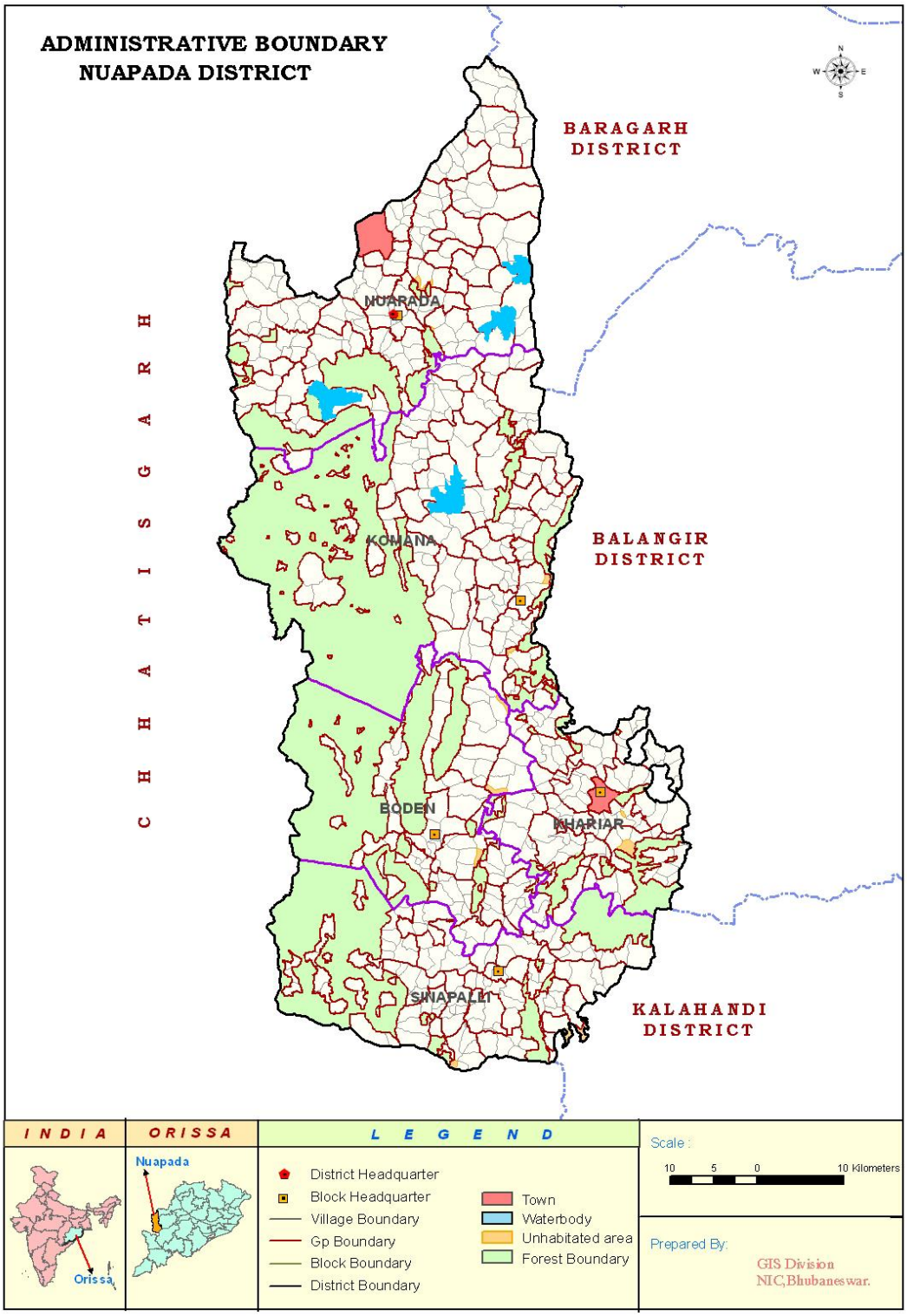
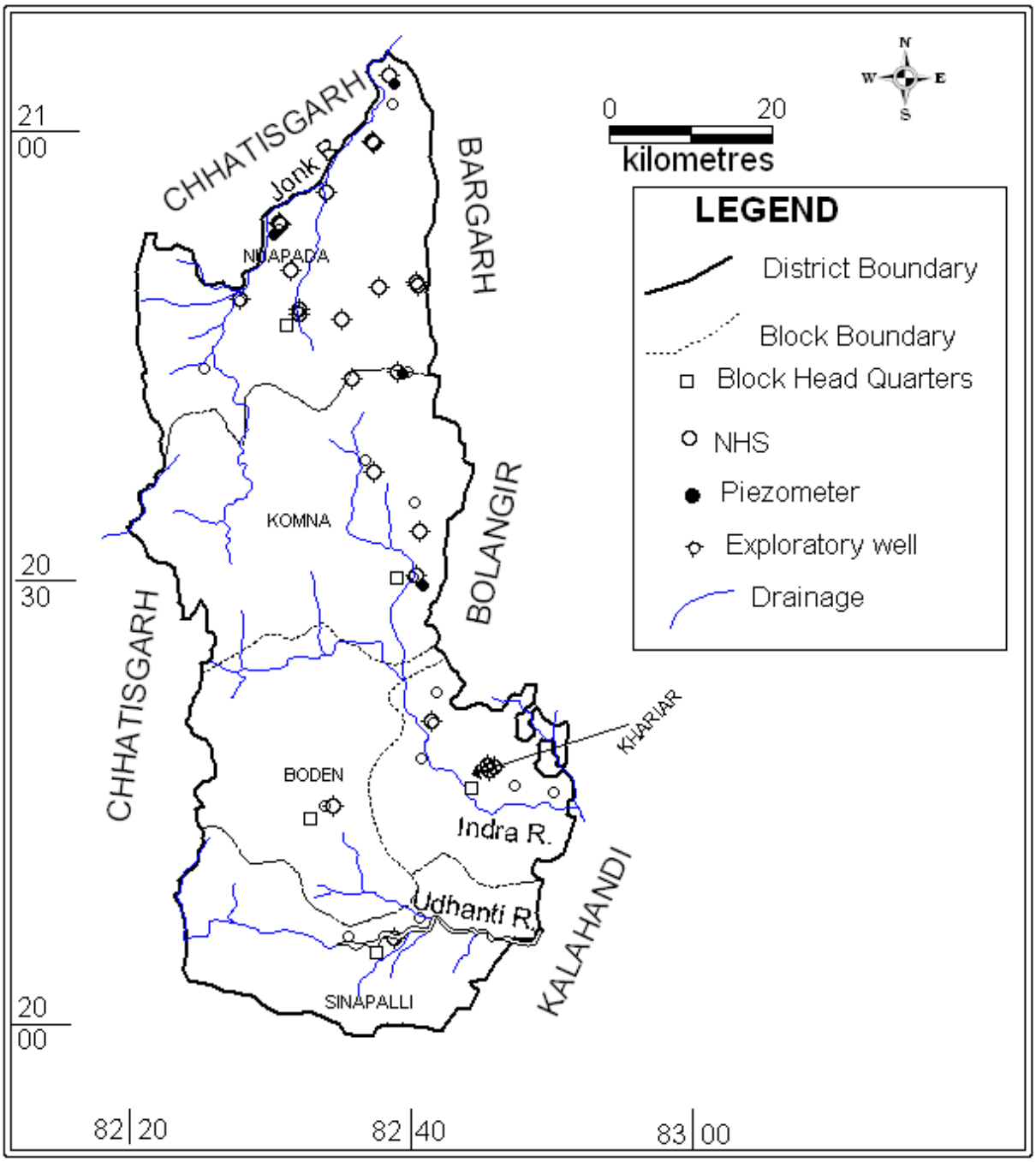


Plate :- 1

INDEX MAP OF NAWAPADA DISTRICT, ORISSA



DISTRICT SURVEY REPORT (DSR) OF NUAPADA DISTRICT, ODISHA FOR STONE MINING

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:-

The District of Nuapada was a part of Kalahandi District up to March 1993, but for administrative convenience, Kalahandi district was divided into two parts – Kalahandi and Nuapada. Nuapada district now comprises of one Sub-division, Nuapada, five tehsils (Nuapada, Komna, Khariar, Sinapali and Boden) and five community development blocks (Nuapada, Komna, Khariar, Boden and Sinapali).

Nuapada district is in the western part of Odisha, lying in between latitude 20°0'N and 21°5' and between longitude 82° 20E and 82° 40 E'. Its boundaries extended in the north, west and south to Mahasamund district in Chhattisgarh and in the east to Bargarh, Balangir and Kalahandi District. The district has an area of 3407.5 Km² and the administrative headquarters is located at Nuapada.

The plains of Nuapada subdivision fringed by rugged hill ranges stretch southward, which belong to the main line of Eastern Ghats and contains extensive plateaus of about 4000ft (1200m) in elevation with long tropical grass growth over them. They contain mineral deposits such as laterite, graphite and bauxite. The hill sides rising up precipitously from the plains are covered with dense sal forest. The forest of the District are managed under Forest Division named as Khariar division. According to the composition of forests in the District, it can be

classified into Sal forests, Teak forests and miscellaneous forests. There are other forest species such as Teak and Bamboo. All these are situated in the dry deciduous forest zone. Timber is by far the major forest products and Sal is no doubt, a major, constituent of these products. Other important species of Nuapada forest are Bija, Asan, Bandhan. The language spoken in Nuapada is a mixture of Odia and Chhatisgarhi dialect. Although it is a district headquarters, the culture is predominantly rural and agrarian.

There are some other minor forest produces of this region which include Kendu leaf, Broom-grass, Mohua flower and its seed, Antia bark and Sabai-grass. Timber, Bamboo and kendu leaf are the major produces which are exported outside of the state. Nuapada District was created on 1st April 1993 by carving out of undivided Kalahandi District with an area of 3408 Sq.Kms. It consists of 670 nos of Revenue villages having population of 5,30,690 as per 2001 census. The total no. of rural households in the District is 1,27,022 as per the 2001 census. Total no, of BPL families is 99,465 in the District which is 78% of the total population. As per the administrative is concerned there are 131G.Ps, 3 NACs and 9 Police Stations. The total Scheduled Caste (SC) population of the District is 72,296 and Scheduled Tribe (ST) population is 1,84,221 which comprise 13.62% and 34.71% respectively of the total population.

The Office of the Collector & District Magistrate is located at Nuapada. One of the important constituent of development, DRDA is also situated inside the Collectorate premises. Other important Govt. authorities like Additional District Magistrate, Sub-Collector also deliver their administration from District Head quarter, Nuapada Nuapada is a District having an unique feature in administrative setup apart from other districts of Odisha.

District Overall Statistics:

Geographical and Population details of the District			
Geographical Area	3,852 Sq. kms.		
Population (2001 Census)	**Total :**	530,690	
	Male :	264,396	
	Female :	266,294	
	SC :	236,019	
	ST :	184,221	
	OBC :	NA	

Administrative details of the District				
No. of Sub-Divisions :	**1**		**No. of Tehsils :**	**5**
No. of Municipalities/Corporation :	0		**No. of N.A.Cs :**	**3**
No. of Blocks :	**5**		**No. of Police Stations :**	**9**
No. of Gram Panchayats :	**131**		**No. of Inhabited Villages :**	**655**
No. of Uninhabited Villages :	**15**		**No. of villages :**	**670**

Sub-Division Block Tahasil

List of Subdivisions of the District	
SL.No.	**Name**
1	Nuapada

List of Blocks of the District	
SL.No.	**Name**
1	Boden
2	Khariar
3	Komna
4	Nuapada
5	Sinapali

List of Tahasils of the District	
SL.No.	**Name**
1	Boden
2	Khariar
3	Komna
4	Nuapada
5	Sinapali

2. OVERVIEW OF MINING ACTIVITY OF THE DISTRICT:-

Mainly the types of minor minerals constituents such as sand, stone, Murrom and bajri are required for any type of construction apart from other material like cement and steel. In earlier times, the houses / buildings were constructed in form of small dwellings with walls made up of mud plaster, stone and interlocking provided with wooden frames and there were negligible commercial as well as developmental activities resulting in less demand of building material. However with the passage of time, new vistas of developmental activities were started. The quantity of minor minerals consumption in a particular area is a thermometer to assess the development of the area. Thus with the pace of development activities, the consumption of minor minerals also increased. As such the demand of minor minerals in the district has started an increasing trend. In order to meet the requirement of raw material for construction, the extraction of sand is being carried out exclusively from the river beds. In district brick earth and ordinary earth mining is carried out with prior Environment Clearance (EC) to meet the requirements of brick lines and for filling / leveling purposes respectively.

So far as Nuapada district is concerned major minerals like Limestone, Graphite, Gemstone(Garnet) and Diamond are available in the district. As on date mining lease like graphite (four) nos, Lime stone (three) nos, and Semi-precious stone (one) are existing. Out of the stated mining leases only 2 nos of graphite mines viz:- Gandabahali graphihte over an area of Ac. 28.615 held by Sri Pravash Ch. Agarwal and Gandabahali and Kirkita graphite mines of over an area of 35.409 hect held by Sri Pramod Kumar Agarwal are working mining lease in the district. Specified minor minerals like quartz & decorative stones are available in the district but no quartz mines has been granted as yet.

Only one decorative stone mining lease in Nuapada district i.e. Chanabeda decorative stone mines over an area of Ac. 16.017 hects held by M/s Awanti Granite Pvt Ltd was operating in district. The lease period has been expired on Dt. 1.03.2011

3. GENERAL PROFILE OF THE DISTRICT:-

Sl No	Particulars	Statistics
1	**General Information**	
	Geographical Area	3852.00 sq. km
	Geographical Position	latitude 20° 0' N and 21° 5' and between longitude 82° 20' E and 82° 40' E
	Administrative Division/Number of Tehsil	5
	No. of villages/Panchayats	Villages -670 / Panchayats - 131
	Population (as per Census 2011)	606490
	Population Density(as per census 2011)	157 inhabitants per square kilometre (410/sq mi)
2	**Geography**	
	Major Physiographic units	Gently undulating terrain, Isolated Mounds & Hills
	Major drainage	the Upper Jonk, the Sunder dam, and the upcoming Lower Indira Irrigation Project
3	**Land Use (Km)**	
	Forest area	1849.00 sq km
4	**Major soil types**	alluvial, black, red, red and yellow and red and black
5	**NUMBERS OF GROUND WATER MONITORING WELLS OF CGWB**	
	No of Dugwells	19
	No of Piezometers	4

4. GEOLOGY OF THE DISTRICT:-

Nuapada is a city of western region of Odisha state of eastern India. It is the head quarter of Nuapada district. Nuapada district is in the western part of Odisha, lying between latitude 20° 0' N and 21° 5' and between longitude 82° 20' E and 82° 40' E. Its boundaries extend in the north, west and south to Mahasamund district in Chhattisgarh and in the east to Bargarh, Balangir and Kalahandi districts. The district has an area of 3407.5 km² and the administrative headquarters is located at Nuapada.

The plains of Nuapada subdivision are fringed by rugged hill ranges stretching southward, which belong to the main line of the Eastern Ghats and contain extensive plateaus of about 4000 ft (1200 m) in elevation.

Due to the conspicuous absence of any industry, the economy revolves around agricultural activities. Three major irrigation projects — the Upper Jonk, the Sunder dam, and the upcoming Lower Indra Irrigation Project — provide support to 45,000 acres of land. Rice is the main crop in the entire district. Other crops like corn (maize), cotton, and onion make up a major share of crops under cultivation. More than 10,000 households migrate to other states in search of better employment opportunities every year after the harvesting season is over. Though the district is tops in MGNREGS implementation, the advance provided by labor contractors before Nuakhai festival lure ignorant laborers into the plot.Due to unregistered and uninformed migration protection of migrant laborers has become a challenge to the government. In 2006 the Ministry of Panchayati Raj named Nuapada one of the country's 250 most backward districts (out of a total of 640).[2] It is one of the 19 districts in Odisha currently receiving funds from the Backward Regions Grant Fund Programme (BRGF).[2]

5. DRAINAGE OF IRRIGATION PATTERN:-

The drainage of the district is controlled by the tributaries of the Mahanadi river, like the Tel and Ong rivers. The main tributaries of the Tel are Indra, Udanti, Hatti, Sagada etc. which are perennial and effluent in nature and maintain sluggish flow during peak summer months. The Jonk river is a tributary of the river Mahanadi, flows in the westerly direction and forms the state border in the northwest. The general drainage pattern in the undulating terrain is dendritic to subdendritic. More or less sub-parallel drainage is observed in the western part comprising Chattisgarh group of rocks, near foothill regions. Studies on satellite imageries and

hydrogeological surveys have revealed that the drainage pattern in the district is controlled by the fracture system which is developed due to tectonic activity in the area.

6. LAND UTLIZATION PATTERN:-

1. FOREST:-

Land is the first and foremost factor of production in any economic activity. So, land is a vital resource. Underdeveloped land is a drag on the cultivator and need to be brought into cultivable status. Land development has become an important activity in Nuapada district in the context of implementation of several irrigation projects. Land development activities help in increasing the yield of various crops by conserving soil moisture. Land development includes land leveling and on-farm development works, watershed development, water management, fodder development and pasture land management, integrated farm development etc. 1,39,781.499 Ha of different kind of forest land available. The district forest division has taken up different forest activities for conservation of flora and fauna as per the working plan duly approved by Govt. of India. The forest cover has been augmented through different plantation activities in the form of artificial regeneration, associated natural regeneration & soil moisture conservation under different schemes. Protection and conservation of forest and protection from encroachment and any other non forestry activities is strictly enforced under the purview of Odisha Forest conservation Act, 1972 and rules made there under & Forest Conservation Act, 1980 over the above mentioned forest area except Revenue Forest, as Revenue forest are coming under the administrative control of Revenue Department. The details are given below:-

Land Utilization Pattern of Nuapada District
(Area in 000 hectares)

Sl No	Items	Area (in 000 hectares)
1	R.F. 02Nos	86.93
2	PRF 122 NOs	98,374,9695
3	V.F. 23 Nos	1,70,824
4	DPF 29 Nos	2,433.016
5	Revenue Forest	32,904.79
6	Un classed Forest	45
7	Plantation area:- a) Govt. land b) Pvt. land	15 267.33 5498.64
Total		**1,39,781.499**

List of PRF Block area in Hect of Khariar Forest Division, Khariar

Sl No	Name of the District	Name of the Forest Block	Name of the Range	Area in Ha
1	Nuapada	Adendungri	Sinapali	22.800
2		Adipita	Sinapali	6475.04
3		Ainlajuba-A	Nuapada	58.000
4		Ainlajuba-B	Nuapada	40.000
5		Ainlajuba-C	Nuapada	45.8000
6		Babebir	Khariar	58.8400
7		Badibahal	Sinapali	10.2000
8		Bajeni	Khariar	1916.0000
9		Bankapur	Khariar	71.7000
10		Barkot-A	Komna	294.7600
11		Barkot-Extension	Komna	502.0000
12		Basini-A	Khariar Road	15.6200
13		Basini-B	Khariar Road	89.3000
14		Belgarh-A	Khariar	15.6200
15		Belgarh-B	Khariar	13.4800
16		Bijakhaman	Komna	118.4000
17		Bijakhaman(Extn.)	Komna	29.1200
18		Bijili	Khariar	26.2200
19		Budharaja	Khariar	185.4800
20		Budharaja	Khariar	50.0000
21		Bundia	Khariar	440.0000
22		Chakadonger	Khariar	40.0000
23		Chandkuamrikachhar	Khariar	148.5200
24		Chaulmachi	Khariar	1984.6400
25		Choura-A	Khariar	5737.6000
26		Choura-B	Khariar	376.0000
27		Chhata	Komna	451.2000
28		Chereipani	Sinapali	663.3180
29		Danjihola	Komna	46.0000
30		Deobahal-A	Khariar	21.6000
31		Deobahal-B	Khariar	43.5200
32		Dharambandha	Nuapada	39.0200
33		Dharamsagar-A	Khariar	1388.0000
34		Dharamsagar-B	Khariar	25.0000
35		Dharamsagar-C	Khariar	16.4000
36		Dharamsagar-D	Khariar	15.1000
37		Gardhanakachhar	Khariar	210.0000
38		Gatibeda	Komna	645.6000
39		Gharsani	Sinapali	12.9500
40		Ghati	Nuapada	953.1400
41		Ghati(Extn.)	Nuapada	96.0000
42		Gohirpadar	Sinapali	935400

43		Gujiki	Khariar	121.2800
44		Gumapalanbasa	Khariar	29.7600
45		Gurudongar	Komna(p)	5367.8100
46		Haldi	Khariar Road	112.9000
47		Hatpada	Khariar	42.5600
48		Jamlikachhar	Sinapali	79.3200
49		Jampani	Khariar Road	912.0000
50		Jhagrai	Komna	20.6000
51		Jholpathari	Nuapada	240.0000
52		Konabhaira	Nuapada	258.0000
53		Kanduldungri	Sinapali	39.2000
54		Kapsidongri	Sinapali	4.5000
55		Karadongri	Khariar	23.0800
56		Karanbahali	Sinapali	14.0600
57		Karlakote	Khariar	142.7200
58		Kathibadi-A	Sinapali	79.3600
59		Kathibadi-B	Sinapali	12.0500
60		Katingpani(Extn.)	Nuapada	126.0000
61		Kendubahara	Nuapada	1550.0000
62		Kendumunda-A	Sinapali	102.8000
63.		Kendumunda-B	Sinapali	33.2300
64		Kendumunda-C	Sinapali	75.8200
65		Kendumunda-D	Sinapali	26.7600
66		Khairbadi	Khariar	24.8000
67		Khirmal	Khariar	229.7200
68		Khamtarai	Khariar	279.7200
69		Kharsedongri	Sinapali	10.0500
70		Khasbahal	Khariar	1173.2000
71		Kechupani	Nuapada	624.0000
72		Koilakhala	Sinapali	10470.1400
73		Kulihadongri	Sinapali	13.3000
74		Kukurimundi	Khariar Road	63.0000
75		Kumudi	Khariar	612.0000
76		Laikhaindongri	Sinapali	3.7400
77		Lamipani	Khariar	75.2000
78		Lankeswari	Komna	272.0000
79		Latabanji	Khariar	82.0000
80		Lakhmipur	Khariar	88.8000
81		Lodra	Nuapada	1566.8440
82		Luhakhainphuljhgaria	Khariar	13.1200
83		Manikgarh-A(Extn)	Nuapada	46.6000
84		Manikgarh-B(Extn)	Nuapada	60.0000
85		Masankunda-A	Khariar Road	368.0000
86		Masankunda-B	Khariar Road	188.0000

87		Mendhatal	Nuapada	1095.2000
88		Musharangi	Nuapada	1997.2000
89		Nagesh-A	Sinapali	163.8300
90		Nagesh-B	Sinapali	213.1725
91		Nagesh-C	Sinapali	15.0700
92		Nagesh-D	Sinapali	20.2300
93		Narayandungri-A	Sinapali	243.5200
94		Narayandungri-B	Sinapali	66.4050
95		Narayandungri-C	Sinapali	164.4100
96		Nimna	Khariar	336.0000
97		Nuapara	Sinapali	13.7400
98		Palsipani(A+B)	Komna	5.2000
99		Patdhara	Khariar	36492.0000
100		Patidongar	Komna	1563.2800
101		Pipalpani	Khariar	1738.4000
102		Raikalalachhar	Komna	31.4600
103		Rajanakchhar	Komna	548.0000
104		Ranidongri-A	Khariar	120.1900
105		Ranidongri-B	Khariar	15.3800
106		Ranidongri-D	Komna	221.7000
107		Ranimai	Nuapada	803.4600
108		Ranimaunda	Khariar	29.2500
109		Risipiti	Khariar	37.8300
110		Redhamal	Khariar	152.6700
111		Salodongri	Sinapali	5.5600
112		Sardhapurdongri	Sinapali	6.1000
113		Satparlia	Khariar	170.7700
112		Singhpur	Khariar Road	22.6200
113		Sukulibhata	Khariar	311.8500
114		Supli	Nuapada	87.0600
115		Tandel-A	Komna	283.2000
116		Tandel-B	Komna	162.4000
117		Tandel-C	Komna	1990.4000
118		Thelkodongri	Khariar	7.6000
119		Udulu	Khariar	53.7800
		Total		98374.9695

List of Reserve Forest

SL No	Name of the District	Name of the Forest Block	Name of the range	Area in Hectare
1	Nuapada	Amodi	Khariar Road	71.96
2		Lakhna-B	Nuapada	14.97
			Total	86.93

List of Village Forest:-

SL No	Name of the District	Village Forest	Name of the range	Area in Hectare
1	Nuapada	Goutama	Khariar Road	7
2		Amsena	Khariar Road	7

3		Mahulibhata	Nuapada	10
4		Teleijhar	Nuapada	7
5		Pagarpani	Nuapada	2
6		Kotenchuan	Nuapada	2
7		Kotenchuan	Nuapada	8
8		Teleijhar	Nuapada	2
9		Pagarpani	Nuapada	7
10		Tanwat	Nuapada	10
11		Ratipali		10
12		Sialati		10
13		Junani		10
14		Silva	Khariar Road	10
15		Bhurkadhoda	Khariar Road	8.86
16		Samarsingh	Nuapada	10
17		Bhurkadhoda	Khariar Road	3.712
18		Sinapali	Nuapada	9.184
19		Kurumpuri	Nuapada	4.876
20		Kurumpuri	Nuapada	7.192
21		Kusdahana	Nuapada	10
22		Darlipada	Nuapada	10
23		Darlipada	Nuapada	5
			Total	170.824

2. **AGRICULTURE**:-

The predominant economic activity prevalent in the district is traditional agriculture involving cultivation of paddy and pulses, oil seeds, onion, cotton, and collection of minor forest produce. The major food crops are paddy, maize, ragi, pulses, onion and oil seeds like ground nut, sesamum etc. The agricultural production fluctuates from year to year under the impact of natural calamities, droughts and floods which is frequent in the district. A large proportion of rural poor and tribals face severe food insecurity. Week agro climatic condition, poor connectivity and infrastructure, physical isolation and low social capabilities among tribals characterize this region which suffers from multiple deprivations and backwardness, tribal backwardness, hill area backwardness. Household investment in agriculture has been negligible. Due to absence of irrigation facilities farmers are not able to take advantage of the advanced agricultural technologies appropriate to irrigated conditions. As such, agricultural productivity has remained abjectly low. The block wise land utilization pattern during the year 2016 of Nuapada district are as follows:-

SL No	Name of the block	Geographical Area	Culturable waste	Land put to non-agriculture use	Barren & un-culturable land	Current fallow	Other fallow	Net area
1	Nuapada	112988	587	525	305	0	190	54430
2	Komna	120683	1011	555	840	1257	405	47253
3	Khariar	45688	66	480	76	139	95	28901
4	Boden	52379	75	390	452	35	80	28255
5	Sinapali	53262	173	340	317	317	41	29060
Total		385000	1912	2290	1990	1748	811	187899

3. **HORTICULTURE**:-

Nuapada District comes under Eastern plate & hill region –VII, Agro climatic zone-western undulating zone characterized by hot & moist sub humid climate with mean rainfall 1352mm, mean max summer temp 37.8°C and mean minimum winter temp 11.9°c. The broad soil groups are red mixed, red black and black.

The Horticulture crops are taken up in upland and medium land of the district with available irrigation facility. The major horticultural crops like sweet pea, cabbage, brinjal, Okra, Onion, Ginger, Chilly, garlic, coriander and medicinal aromatic plants like Aswagandha, Sarpagandha, and flower like rose, tube rose, marigold, gladiolus, and fruit crops like mango, guava, aonla, lemon/lime, pomegranate, custard apple, papaya, banana are grown throughout the district. Through Departmental intervention new fruit gardens have been added over the years under area expansion programme by supplying quality planting materials of grafted mango, budded/gootees like guava, lemon, Ber to the beneficiaries providing technical guidance on modern horticulture practices since functioning of separate horticulture department branch Office from the year 1980. The various departmental schemes have been executed like State plan, NHM/MIDH, MGNREGS, RKVY, Micro Irrigation / PMKSY to contribute to the overall development of Horticulture sector in the district. The present status on area/production of various horticultural crops in Nuapada district is given as below.

Total Area under fruits Area 10079.5 Ha Prod. 55096.65MT
Total Area under vegetable Area 11076 Ha Prod. 149271 MT
Total Area under Flower Area 147 Ha Prod 821MT+80lakh nos.
Total Area under spices Area 3293 Ha Prod 7078 MT
Total Area under Plantation Area 1740 Ha Prod 68 MT

Crop wise Area Production Sheet

Crop Name	**Area in Ha**	**Production in MT**
Fruits Crop		
Aonla	150	56.65
Bael	340	1680
Banana	524	9700
Ber	286	1090
Guava	686	4510
Jack fruit	483	6673
Litchi	26	117
Mango	5996	18350
Papaya	73	1425
Pineapple	12	85
Pomegranate	6	23
Sapota	10	47
Other fruit	679	1834
Lime & Lemon	558	5064
Other citrus (grape & fruit)	26	194
Water Melon	221	4192
Muskmelon	3.5	57
Total	**10079.5**	**55096.65**
Vegetable crop		
Mushroom		40
Okra	840	7333
Onion	892	11915
Peas(green)	154	1253
Pointed gourd	15	135
Potato	366	5803
Radish	342	3692
Leafy Vegetable	452	4649
Sweet Potato	1152	1014
Tapioca	4	48
Tomato	2132	29967
Other Vegetables	569	4736
Beans	292	1396
Bitter ground	248	2365
Bottle Gour	250	4567
Brinjal	1649	29765
Cabbage	568	19367
Capsicum	4	38
Carrot	6	56
Cauliflower	673	9739
Cucumber	19	185
Pumpkin	449	11210
Total	**11076**	**149271**
Spices Crop		
Coriander	425	242
Garlic	329	1081

Ginger	127	1101
Turmeric	179	1003
Other Spices	224	1761
Red Chilly	2009	1890
Total	**3293**	**7078**
Flowers Crop		
Gladiolus	25	26 Lakh
Marigold	86	810MT
Rose	32	54 Lakh
Tube Rose	4	11 Mt
Total	**3293**	**821MT+80 lakh**

Nuapada District				
MAJOR MINERAL			SPECIFIED MINOR MINERALS	
TOTAL AREA(In Hect)	FOREST AREA(In Hect)		TOTAL AREA(In Hect)	FOREST AREA(In hect)
552.195	8.599		0.000	16.017

7. **GROUND WATER SCENARIO**:-

1. **HYDROGEOLOGY**:

The hydro geological framework of the district is mainly controlled by the geological set up, rainfall distribution and the degree of secondary and primary porosities in the geological formations for storage and movement of ground water. Since major parts of the district are underlain by hard rocks of diverse lithological composition and structure, the water bearing properties of the formations also vary to a great extent. The area has undergone several phases of intense tectonic deformations which has been responsible for the development of deep seated intersecting fracture system. Hydro geological surveys in the district reveals the lithological characteristics and the role of tectonic deformation on the occurrence and distribution of ground water reservoirs and their water bearing and water yielding properties. The district is located at the boundary between the Eastern Ghat Mobile Belt and Bastar Craton which is faulted and represents a first order lineament. Lineaments formed due to tensile deformation were picked up from remote sensing studies. The structural elements mainly control the occurrence and movement of groundwater in the typical fractured crystalline basement terrain. The major hydro geologic units in the district can be subdivided into two broad groups.

(i) Areas underlain by fractured, fissured and consolidated basement rock formations.
(ii) Areas underlain by recent unconsolidated alluvial formations

2. Ground Water Quality :

The chemical quality of ground water in the district has been assessed on the basis of ground water samples collected during ground water monitoring, hydro geological surveys and ground water exploration. The range of different chemical constituents in shallow and deeper aquifers is given in Table.

Table 4.4 Range of Chemical Constituents in Different Aquifers	Shallow aquifer		Deeper aquifer	
Chemical constituents	Range	Average	Range	Average
E.C. (µs/cm at 250c)	61-1434	200-700	117-778	263-552
pH	7.25- 8.21	7.38 – 7.96	7.1-8.45	7.1-8.23
Bicarbonate (mg/l)	31- 573	60-226	85-354	146-299
Chloride(mg/l)	4-121	11-89	3.5-145	8.9-92
Nitrate(mg/l)	0.0-139	6 - 64	0.77-16	1-12
Fluoride(mg/l)	0.03 – 7.2	0.33- 4.95	0.45-4.1	0.45-3.3
Total Hardness(mg/l)	30 - 540	90 - 390	50-290	103-195
Calcium(mg/l)	6 - 148	24 - 94	16-76	22-53
Magnesium(mg/l)	2.4 - 91	7.3 - 29	2.4-24	5.5-18
Sodium(mg/l)	1.9 - 185	7.3 -63	14-110	17-48
Potassium(mg/l)	.1 – 9.9	0.32 – 3.5	0.9-5.9	0.9-2.7
Carbonate(mg/l)	0	0	0	0
Sulphate(mg/l)	0-60	2.8-48	0.86-27	0.98-24
Iron(mg/l)	-	-	0.01-0.16	0.01-0.16

The chemical analysis data of both deeper and shallow aquifer reveals that except fluoride all the other parameters are within the permissible limit. The water is potable and good for drinking purposes. But fluoride above the permissible limit of 1.5 mg/l is reported in Komna, Boden and Sinapalli block and problem of fluorosis is acute. In Khariar block fluorosis problem is less and in Nawapada block high fluoride is sporadically distributed in the southern part.

8. **RAINFALL & CLIMATIC CONDITION**:-

The south-west monsoon is the principal source of rainfall in the district. Average annual rainfall of the district is 1378.2 mm. About 75% of the total rainfall is received during the period from June-September. Droughts are quite common in the district. As the district falls in the rain shadow region the rainfall is very erratic. The climate of the district is subtropical with hot and dry summer and pleasant winter. The summer season extends from March to middle of June

followed by the rainy season from June to September. The winter season extends from November till the end of February. Humidity is high during middle of June and it's less in post-monsoon period. The potential evapo-transpiration values varies from 3.62 cm to 23.74 cm. Wind is generally light to moderate. During summer and southwest monsoon months wind velocity increases.

Year	Jan		Feb		March		April		May		June		July		August		Sept		Oct		Nov		Dec	
	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP	R/F	%DEP
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
2014	0	-100	9.7	-18	12.4	-27	7.1	-70	156	359	135	-26	534.1	54	366	21	295	60	55.2	-9	0	-100	0	-100
2015	0.2	-98	0	-100	2.4	-86	78.6	228	22.4	-34	264	45	280.9	-19	204	-33	292	58	2	-97	0	-100	1.4	-76
2016	0	-100	2.4	-80	5.6	-67	0	-100	4.2	-87	169	-8	290.2	-16	184	-39	333	80	59	-3	0	-100	0	-100
2017	0	-100	0	-100	0	-100	0	-100	1.2	-96	194	6	160.9	-54	268	-11	218	18	115	89	0	-100	0	-100
2018	0	-100	4	-66	-66	-99	26.5	10	44.4	31	116	-37	274.1	-21	475	57	137	-26	0	-100	0	-100	75	1246

9. DETAILS OF MINING LEASES:-

Please refer to table at Annexure-I

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

Sl No	Name of Tahasil	Name of the Source	Revenue Collected in last three years		
			2016-17	2017-18	2018-19
1	2	3	4	5	6
1	Nuapada	Saliha Stone quarry No.4	82188.00	63600.00	105013.00
		Saliha Stone Quarry No.5	144666.00	352980.00	331546.00
		Boirbhadi Stone quarry	132534.00	110352.00	125389.00
		Hanspuri Stone quarry No.1	100315.00	69146.00	83999.00
		Hanspuri Stone quarry No.2	119706.00	141680.00	168854.00
		Hanspuri Stone quarry No.3	14472.00	140448.00	172857.00
		Hanspuri Stone quarry No.4	162629.00	169400.00	204920.00
		Hanspuri Stone quarry No.5	228765.00	215600.00	251255.00

		Padampuri Stone quarry No.1	143035.00	0.00	0.00
		Padampuri Stone quarry No.2	398377.00	354750.00	450032.00
		Padampuri Stone quarry No.3	0.00	175434.00	248515.00
		Padampuri Stone quarry No.4	517156.00	624157.00	645557.00
		Padampuri Stone quarry No.5	0.00	288800.00	103661.00
		Supuli stone quarry	274471.00	201600.00	298192.00
2	Khariar	Chanabeda Stone quarry-1	0.00	161561.00	235478.00
		Modosil Stone quarry	67718.00	102352.00	105386.00
		Khamtarai stone quarry	495886.00	510643.00	510643.00
		Chanabeda Stone quarry-II	0.00	10147.00	35405.00
		Baddohel stone quarry	129903.00	322102.00	322102.00
		Risigaon stone quarry-III	33119.00	6056.00	394310.00
		Risigaon Stone quarry-IV	0.00	244817.00	797090.00
		Risigaon stone quarry-II	0	375940.00	595636.00
		Risigaon stone quarry-I	113782.00	119761.00	79979.00
		Jholpathar stone quarry	0	4294.00	33613.00
		Sargadi stone quarry	3097656.00	0	536055.00
3	Komna	Balipati –II Stone quarry	0	0	0
		Balipati-I Stone quarry	180114.00	280516.00	710422.00
		Balipati-IV Stone quarry	0.00	0.00	0.00
		Balipati-V Stone quarry	0.00	0.00	0.00
		Babeghati-II Stone quarry	72154.00	58156.00	115148.00
		Babeghati-III Stone quarry	0.00	0.00	0.00
		Babeghati-I Stone quarry	0.00	0.00	327881.00
		Bangamunda Stone quarry	285519.00	323515.00	187717.00
		Lakhna-III Stone quarry	212522.00	200367.00	247363.00
		Lakhna –II Stone quarry	211067.00	296539.00	164689.00
		Lakhna-I Stone quarry	0.00	0.00	0.00
		Lakhna –IV Stone quarry	0.00	0.00	0.00
		Lakhna-V Stone quarry	0.00	0.00	0.00
		Lakhna –VI Stone	0.00	0.00	0.00

		quarry			
		Muralibahal Stone quarry	156341.00	358758.00	0.00
		Gandamer-II Stone quarry	0.00	0.00	0.00
		Gandamer-I Stone quarry	277699.00	357956.00	167089.00
		Balipati-III Stone quarry	0.00	0.00	0.00
4	Boden	Jugrajpur Stone quarry-B	231421.00	411414.00	424394.00
		Babebir Stone quarry	343763.00	400698.00	410130.00
		Rokal Stone quarry	253922.00	264766.00	264391.00
		Bakulikhunti Stone quarry	164045.00	232365.00	218907.00
		Jugrajpur Stone quarry-A	178003.00	200050.00	208914.00
5	Sinapali	Dengmacha Stone quarry-I	161964.00	249694.00	193256.00
		Dengmacha Stone quarry-II	221660.00	137045.00	265110.00
		Bargaon Stone quarry	307767.00	396919.00	328054.00
		Niljee Stone quarry	0.00	0.00	0.00

Collection of royalty from Major Mineral sources during last four years

Sl No	Year	Name of the Mines	Name of the Lessee	Royalty Collected(in Rs)
1	2015-16	Gandabahali Graphite mines over 20.234 ha	Sri P.K. Agrawal	1,76,300/-
2	2016-17	Gandabahali Graphite mines over 20.234 hs	Sri P.K. Agrawal	75,300/-
3	2017-18			
4	2018-19	Gandabahali Graphite mines over 28.615 ha	Sri P.C. Agrawal	13,100/-

11. **DETAILS OF PRODUCTION OF MINOR MINERAL IN LAST THREE YEARS**:-

Sl No	Name of Tahasil	Name of the Source	Production of Minor Minerals Stone in last three years in CuM		
			2016-17	2017-18	2018-19
1	2	3	4	5	6
1	Nuapada	Saliha Stone quarry No.4	400	400	500
		Saliha Stone Quarry No.5	1140	2220	1980
		Boirbhadi Stone quarry	471	521	605

		Hanspuri Stone quarry No.1	598	598	598
		Hanspuri Stone quarry No.2	840	920	1000
		Hanspuri Stone quarry No.3	798	912	1026
		Hanspuri Stone quarry No.4	990	1100	1210
		Hanspuri Stone quarry No.5	1200	1400	1400
		Padampuri Stone quarry No.1	688	729	810
		Padampuri Stone quarry No.2	1550	1700	1900
		Padampuri Stone quarry No.3	1657	1677	1683
		Padampuri Stone quarry No.4	2400	2500	2600
		Padampuri Stone quarry No.5	0	1440	1440
		Supuli stone quarry	1200	1400	1400
2	Khariar	Chanabeda stone quarry-I	0	850	1240
		Modosil stone quarry	350.58	540	556
		Khamtarai stone quarry	1540	385	385
		Chanabeda stone quarry-II	0	34.52	131
		Baddohel stone quarry	460.25	1360	1360
		Risigaon stone quarry-III	300	13.06	945
		Risigaon stone quarry-IV	0	495	1620
		Risigaon stone quarry-II	0	1021	1620
		Risigaon stone quarry-I	776	752	502
		Jholpathar stone quarry	0	12.33	1149
		Sargadi stone quarry	3000	0	3000
3	Komna	Balipati-II Stone quarry	NA	NA	NA
		Balipati-I Stone quarry	1575	1575	1620
		Balipati-IV Stone quarry	NA	NA	NA
		Balipati-V Stone quarry	NA	NA	NA
		Babeghati-II Stone quarry	352	352	352
		Babeghati-III Stone quarry	NA	NA	NA

		Babeghati-I Stone quarry	0	0	306
		Bangamunda Stone quarry	1190	1120	1054
		Lakhna-III Stone quarry	1125	1125	1172
		Lakhna-II Stone quarry	900	990	1170
		Lakhna-I Stone quarry	NA	NA	NA
		Lakhna-IV Stone quarry	NA	NA	NA
		Lakhna-V Stone quarry	NA	NA	NA
		Lakhna-VI Stone quarry	NA	NA	NA
		Muralibahal Stone quarry	756	828	864
		Gandamer-II Stone quarry	NA	NA	NA
		Gandamer-I Stone quarry	1225	988	1598
		Balipati-III	0	0	0
4	Boden	Jugrajpur Stone quarry-B	1530	1668	1800
		Babebir Stone quarry	1460	1704	1780
		Rokal Stone quarry	1400	1400	1400
		Bakulikhunti Stone quarry	0	873	1292
		Jugrajpur Stone quarry-A	936	1008	1080
5	Sinapali	Dengmacha Stone quarry-I	1800	1800	1800
		Dengmacha Stone quarry-II	1800	1800	1800
		Bargaon Stone quarry	1995	1995	1955
		Niljee Stone quarry	0	749	749

12. **MINERAL MAP OF THE DISTRICT**:-

13. LIST OF LETTER OF INTENT (LOI) HOLDERS:-

Please refer to table at Annexure-II

14. TOTAL MINERAL RESERVE AVAILABLE IN THE DISTRICT:-

As per UNFC (United Nations Frame work Classification) of potentials of minerals, A 'Mineral Reserve' is the economically mineable part of a measured and / or indicated mineral resource. It includes diluting materials and allowances for losses which may occur when the material is mined. Appropriate assessments which may include feasibility studies, have been carried out and include consideration of and modification by realistically assumed mining, metallurgical, economic, marketing , legal, environmental, social and governmental factors. These assessments demonstrate at the time of reporting that extraction is justified.

The mineability (Economic viability) is a demonstrated in consecutive feasibility assessment stages which may be in order of increasing detail, prefeasibility study and feasibility study/mining report. A probable mineral reserve may derive from a prefeasibility study and documentation. Hence for the reserve potential estimation of the Nuapada district, the approved mining plans o each existing quarry has been referred as it provides details of the mineable & geological reserve potentials of the quarry lease.

As per the approved mining plan of the quarry leases till September 2019 in Nuapada district the total mineral potential are as follows:

Sl No	Name of Tahasil	Name of Source	Geological reserve as per approved mining plan of existing quarries (in m^3)	Mineable reserve as per approved mining plan of existing quarries (in m^3)
1	Nuapada	Saliha stone quarry No1	33984	27420
		Saliha stone quarry No3	102960	41403
		Saliha stone quarry No4	198900	72450
		Saliha stone quarry No5	166050	95850
		Saliha stone quarry No6	47196	26271
		Saliha stone quarry No 9	66840	33964
		Boirbhadi stone quarry	114368	47784
		Hanspuri stone quarry No. 1	159570	155925

		Hanspuri stone quarry No. 2	331650	241560
		Hanspuri stone quarry No. 3	327600	202050
		Hanspuri stone quarry No. 4	405720	214200
		Hanspuri stone quarry No. 4	324450	124650
		Padampuri stone quarry No.1	221850	206550
		Padampuri stone quarry No.2	354600	351900
		Padampuri stone quarry No.3	52360	52360
		Padampuri stone quarry No.4	696065	208192
		Padampuri stone quarry No.5	358920	219920
		Supuli Stone quarry	668250	602775
2	Khariar	Sargadi stone quarry	4482276.5	287784
		Risigaon stone quarry-III	446670	361125
		Khamtarai stone quarry	181510.8	86902.2
		Risigaon stone quarry-I	46101.6	14515
		Modosil stone quarry	165471	81225
		Chanabeda stone quarry-I	381748	171171
		Chanabeda stone quarry-II	338418	188459
		Jholpathar stone quarry	230400	116473
		Baddohel stone quarry	260984.96	111245
		Risigaon stone quarry – IV	786240	689823
		Risigaon stone quarry-II	247950	131147.5
		Bhairajpur stone quarry	363780	176656
3	Komna	Balipati-II Stone quarry	44940	17400
		Balipati-I Stone quarry	80442	70750
		Balipati-IV Stone quarry	301644	161700
		Balipati-V Stone quarry	248375	127160
		Babeghati-II Stone quarry	281055	144210
		Babeghati-III Stone quarry	361560	337920
		Babeghati-I Stone quarry	157300	70125

		Bangamunda Stone quarry	333920	257850
		Lakhna-III Stone quarry	114435	69390
		Lakhna-II Stone quarry	51520	23800
		Lakhna-I Stone quarry	326700	169405
		Lakhna-IV Stone quarry	591663	235055
		Lakhna –V Stone quarry	NA	NA
		Lakhna-VI Stone quarry	NA	NA
		Muralibahal Stone quarry	39628	35250
		Gandamer-II Stone quarry	558240	334005
		Gandamer-I Stone quarry	96070	87860
		Balipati-III Stone quarry	4693868	469.868
4	Boden	Jugrajpur Stone Quarry-B	768200	592950
		Babebir Stone quarry	884219	620775
		Rokal Stone quarry	348480	823939
		Bakulikhunti Stone quarry	105850	40355
		Jugrajpur Stone quarry-A	260118	168115
5	Sinapali	Dengmacha Stone quarry-I	491329.3	524149.74
		Dengamacha Stone quarry-II	2240031	577652.7
		Bargaon Stone quarry	1183653	508668
		Niljee Stone quarry	126800	70125

15. QUALITY/GRADE OF MINERAL AVAILABLE:

The contribution of minerals to the economy of the district is quite significant. Limestone, Graphites, Galena, Gemstone (Garnet) are some of the minerals available in the district. Of these, only graphite has been commercially exploited and is suitable for mining purposes. Other minerals of the state include copper ore, lead ore, titanium bearing vanadiferous magnetite, talc/ soap stone and high magnesia igneous rocks. The rich mineral wealth of the state is attributed to its favourable Geological setup. The plains of Nuapada subdivision are fringed by rugged hill ranges stretching southward, which belong to the main line of the Eastern Ghats and contain extensive plateaus of about 4000 ft (1200 m) in elevation.

16. **USE OF MINERAL**:

The term minor mineral has been defined in clause (e) of section 3 of the Mines and Minerals (Regulation and Development) Act, 1957. Minor minerals means building stones, gravel, ordinary clay, other than sand used for prescribed purposes and any other mineral which the Central Government may by notification in the Official Gazette declare to be a minor mineral. Major minerals are those specified in the first schedule appended in the Mines and Minerals (Development and Regulation) Act, 1957 (MMDR Act 1957) and the common major minerals are Lignite, Coal, Uranium, iron ore, gold etc. It may be noted that there is no official definition for "major minerals" in the MMDR Act. Hence, whatever is not declared as a "minor mineral" may be treated as the major mineral.

a) **Specified minor minerals**:-

i. **Quartz**:- It is used in Ceramic, fertilizers, abrasives, electrical, paint, rubber, chemical and textile industries with different specifications. As quartz is a piezoelectric material, it is also used in radio circuit, radars, ultrasonic devices, chronometers etc.

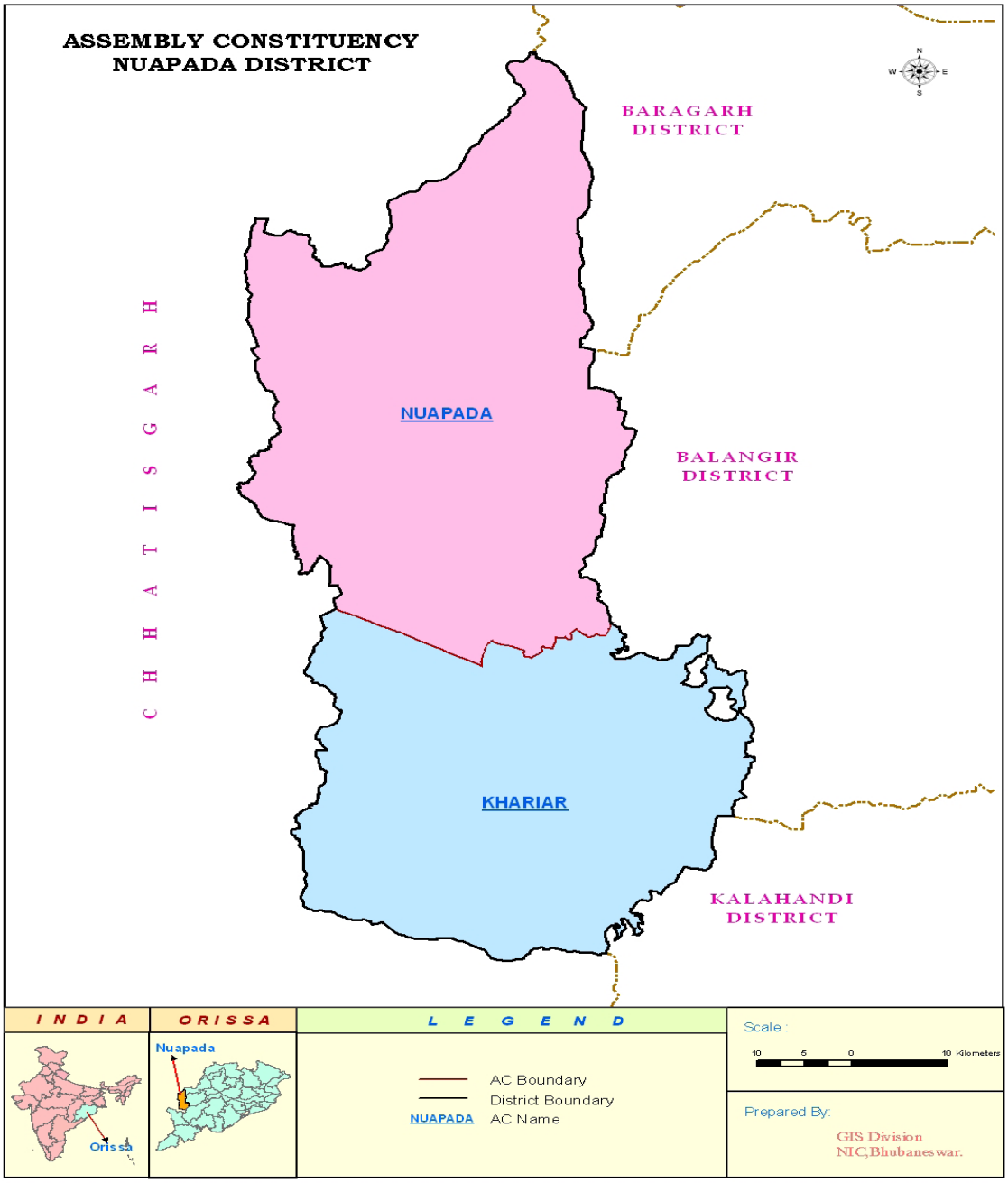
ii. **Decorative Stone**(Granite):- It is used as polished blocks & tiles for flooring kitchen platforms, wall panels, Table tops in commercial complexes, domestic houses, monuments, temples, platforms, tomb stones, land scaping etc. Many coloured varieties are used for flower vases, name plates, pen stands, paper weights, statues & modern sculptures.

b) **Other than Specified minor minerals**:- In Nuapada district other than specified minor minerals such as river bed sand and building stone(Road metal) are existing. These minerals are mostly used as construction materials and in various civil constructions works of the district.

17. **DEMAND & SUPPLY OF THE MINERAL IN LAST THREE YEARS**:

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.

18. **MINING LEASES MARKED ON THE MAP IN THE DISTRICT**:



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

Mouza	**Details of the area**	**Location**
Dengmacha	Dengmacha Stone quarry-I, Khata No. 50(AAA), Plot No. 282, Kissam-Dungri, Ac. 14.00	Lat-20°3'10.66"20°3'21.39''N – Long. 82°35'29.27'' to 82°35'35.60''E
Dengmacha	Dengmacha Stone quarry-II, Khata No. 50(AAA), Plot No. 282, Kissam –Dungri, Ac. 15.00	Lat-20°3'07.89"20°3'19.95''N – Long. 82°35'32.51'' to 82°35'39.36''E
Bargaon	Bargaon Stone quarry, Khata NO. 757(AAA), Plot No. 2894, Pathar Chatan, Ac. 10.51 Plot No. 2930, Pathar Chatan, Ac. 0.96 Plot No. 2936, Dungri, Ac. 2.03	Lat-20°07'13.0"20°7'20.7''N – Long. 82°39'55.3'' to 82°39'57.0''E
Niljee	Niljee Stone quarry, Khata No. 474(AAA), Plot No. 162, Dungri, Ac. 1.85	Lat-20°07'02.9"20°07'07.0''N – Long. 82°35'16.8'' to 82°35'21.3''E

20. **DETAILS OF ECO-SENSITIVITY AREA:-**

Eco-sensitive Zone around Sunabeda WLS Odisha :-

It is a re-notified proposal. The draft notification was earlier published on 27.11.2015 and the proposal was considered in the ESZ Meeting held on 27.02.2017. The validity of the earlier proposal expired on 25.05.2017 The draft was re-notified on 13.10.2017. Shri. G. D. Fatna, DFO Sunabeda (WL), Department of Forest, Govt. of Odisha apprised the Committee about the proposal. The salient features of the draft Eco-sensitive Zone (ESZ) are as follows: Area of PA : 600 sq kms Proposed ESZ area : 928.94 sq. kms Proposed Extent : Zero to 20 km It was mentioned that the Sunabeda WLS is situated in the Nuapada District about 540 Kms from State Capital Bhubaneswar in Odisha. The Wildlife Sanctuary, an important site for integration of in-situ and ex-situ conservation of wildlife is well known for its rich biodiversity. Comments received from Wild Orissa were discussed and the State was requested to highlight the importance of Sunabeda in Central Indian Tiger Landscape viz Indravati-Udanti-Sitanadi-Sunabeda in the Preamble of the Notification. It was mentioned that the zero extent proposed

towards Western direction is due to the interstate boundary with Chhattisgarh. Representative of the State Government further stated that there was some error in listing of villages falling in ESZ in the earlier proposal. In the draft 129 villages were shown in the ESZ area but the actual number of villages is 115 and accordingly requested to make the correction in the final Notification. The committee asked the State to submit the updated list of villages. After detailed deliberations, Committee recommended the proposal for finalisation subject to submission of updated Preamble and the list of villages falling in the ESZ area.

21. **IMPACT OF ENVIRONMENT** (AIR, WATER, SOIL, FLORA etc):-

Environmental impacts of mining can occur at local, regional, and global scales through direct and indirect mining practices. Impacts can result in erosion, sinkholes, loss of biodiversity, or the contamination of soil, groundwater, and surface water by the chemicals emitted from mining processes. These processes also have an impact on the atmosphere from the emissions of carbon which have effect on the quality of human health and biodiversity.[1] Some mining methods may have such significant environmental and public health effects that mining companies in some countries are required to follow strict environmental and rehabilitation codes to ensure that the mined area returns to its original state.

Impacts on Air:-

Air quality is adversely affected by mining operations. Un refined materials are released when mineral deposits are exposed on the surface through mining. wind erosion and nearby vehicular traffic cause such materials to become airborne. Lead, arsenic, cadmium, and other toxic elements are often present in such particles. These pollutants can damage the health of people living near the mining site. Diseases of the respiratory system and allergies can be triggered by the inhalation of such airborne particles.

Impacts on Water:-

Mining affects fresh water through heavy use of water in processing ore, and through water pollution from discharged mine effluent and seepage from tailings and waste rock impoundments. While there have been improvements to mining practices in recent years, significant environmental risks remain. Negative impacts can vary from the sedimentation caused by poorly built roads during exploration through to the sediment, and disturbance of water during mine construction. Water pollution from mine waste rock and tailings may need to be managed for decades. Mining also causes water pollution which includes metal contamination, increased sediment level in streams and acid mine drainage. Pollutants released from processing plants, talling ponds, underground mines, waste-disposal areas, active or abandoned surface or haulage roads etc act as the top sources of water pollution.

Sediments released through soil erosion cause siltation or the smothering of stream beds. It adversely impacts irrigation, swimming, fishing, domestic water supply and other activities dependent on such water bodies.

Impacts on Noise:-

Noise pollution mainly due to operation of machineries, occasional plying of machineries and drilling and blasting. These activities will create noise pollution in the surrounding area that affects the life of the nearby habitats.

Impacts on Soil:-

Soil disruptions can contribute to the deterioration of the areas flora and fauna. There is also a huge possibility that many of the surface features that were present before mining activities cannot be replaced after the process has ended. The removal of soil layers and deep underground digging can destabilize the ground which threatens the future of roads and buildings in the area.

Impacts on Flora & Fauna:-

Often the worst effects of mining activities are observed after the mining process has ceased. The destruction or drastic modification of the premined landscape can have a catastrophic impact on the biodiversity of flora and fauns ranging from soil microorganisms to large mammals. Endemic species are most severely affected since even the slightest disruptions in their habitat can result in extinction or put them at high risk of being wiped out. Toxin released through mining can wipe out entire populations of sensitive species.

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

Air: - Wet drilling method shall be adopted to control dust emission during drilling. Pre wetting of blasting site should be practiced. Delay detonators and shock tube initiation system for controlled blasting shall be used so as to reduce vibration and dust as prescribed in the mining plan.

Water sprinkling arrangements shall be provided at all haul roads, transportation roads, quarry area, stack yard, loading and unloading areas including all the transfer points and other dust generating points to control fugitive dust emission. All haulage roads should be maintained properly to avoid creation of ruts and potholes. Spillage of material during transportation on haul roads shall be prevented by stopping overloading. All haulage roads should always be in wet condition to prevent generation of dust and for this water sprinkling through tankers / fixed sprinklers shall be done at desired intervals.

Overburden / waste rocks shall be properly stacked in the earmarked areas and should be suitably terraced and stabilized through vegetative cover and finally shall be utilized for

backfilling of mined out areas. Construction of garland drains and toe walls shall be made in the waste dumping areas to avoid wash off of solids during rain.

Mineral handling plant (crusher & screening plant if any inside the quarry) shall be allowed only if it complies to the existing sitting guidelines prescribed by Govt. of Odisha. It shall in such as case comply to the provisions laid out for pollution control of stone crushers. Suspended particulate matter (SPM) measured between 3.0 meters and 10.0 meters from any process equipment of the stone crusher shall not exceed 600µ/m³.

Water:-

Settling pit of adequate capacity shall be provided in the catchment area for treatment of the surface run off and contaminated wastewater before allowing to flow outside.

Wastewater generated due to vehicle washing shall be adequately treated in an ETP to remove oil & grease and TSS (Total Suspended Solids) from it.

Noise:-

Adequate measures shall be taken for control of noise levels as per Schedule 3 in the work zone. Ear muffs should be provided to the workers. DG sets of any should have acoustic enclosures to minimize noise pollution.

23. RECLAMATION OF MINED OUT AREA:

Mine reclamation is the process of restoring land that has been mined to a natural or economically usable state. Although the process of mine reclamation occurs once mining is completed, the planning of mine reclamation activities occurs prior to a mine being permitted or started. Mine reclamation creates useful landscapes that meet a variety of goals ranging from the restoration of productive ecosystems to the creation of industrial and municipal resources. In the United States, mine reclamation is a regular part of modern mining practices.[1] Modern mine reclamation minimizes and mitigates the environmental effects of mining.

In Nuapada district no stone quarry has been reported as exhausted of mineral, hence no reclamation approach has been implemented in present date.

24. RISK ASSESSMENT & DISASTER MANAGEMENT PLAN:

Risk assessment is the determination of quantitative or qualitative value of risk related to a concrete situation and a recognized threat. Activities requiring assessment of risk due to occurrence of most probable instances of hazard and accident are both onsite and offsite. It must be realized that any incident may develop into a major emergency even with the best safety measures and programmes in any industry. Hence an emergency procedure will be planned properly and documented to help in reducing time loss, chaos and confusion at the hour of need by assigning person who will engage in meeting emergency smoothly and effectively. Any accident which has potential to develop into a major emergency can threaten large number of person or large area of the industries on the site may affect safety of the public property and environment. Hence, it is absolutely essential that emergency procedures will be properly planned and documented.

With the growing complexity of Industrialization in our country and increasing use of machinery & danger to the human being as well as property it is necessary to prevent occurrence of any incident. It must be realized that any incident may develop into a major emergency even with the best safety measures and programmes in any industry. Hence, an Emergency procedure will be planned properly and documented to help in reducing time loss, chaos and confusion at the hour of need by assigning person who will engage in meeting emergency smoothly and effectively. Any accident which has potential to develop into a major emergency can threaten large number of person or large area of the plant on the site may affect safety of the public, property and environment. Hence, it is absolutely essential that emergency procedures will be properly planned and documented: -

To protect plant personnel and private citizens.
To prevent or minimize damage of property or the environment.
To help the person at site in a systematic manner.
To restore the effective areas as soon as possible.
To review incident after it has occurred and to evaluate the company's efforts in order to improve emergency management response in the future.

Stone quarry mining is an open cast practice in the district, hardly cause disastrous situation except bench failure if the slope of the benches are not well maintained and height of the benches are exceptionally high not executed as per the approved plan. Any disastrous situation raised in the mining area must be reported to the concern authorities as soon as possible.

25. DETAILS OF OCCUPATIONAL HEALTH ISSUES IN THE DISTRICT

As per the guidelines of the Mine Rules 1995, the occupational health safety has been stipulated by the ILO/WHO. The proponents 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 check up of workers.

Occupational hazards involved in mines are related to dust pollution, noise pollution, blasting and injuries from moving machineries & equipments and fall from high places. There is no silicosis patients detected during last five year. The number of tuberculosis patients suffered during last five years are as follows:-

Year	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
14-15	71	74	62	67	69	65	62	63	78	71	69	62	813
15-16	68	75	79	65	63	72	75	52	69	64	58	62	802
16-17	64	57	53	64	53	61	57	54	83	79	75	71	771
17-18	92	91	67	61	64	65	58	60	55	53	55	67	788
18-19	82	82	69	76	59	70	60	57	45	84	61	85	830

26. PLANTATION AND GREEN BELT DEVELOPMENT:

Greenbelt means planting of special type of plants suitable to that particular agro climate zone and soil characteristics in a place which will make the area cooler, reduce air pollution, prevent soil erosion and further improve the soil fertility status. A green belt around the periphery of boundary and road side will be created to avoid erosion of soil, prevention of landslides, minimize the air pollution and noise pollution in the project area. The green plants are capable of absorbing air pollutants and forming sinks for pollutants. Leaves with their vast area in a tree crown, absorb pollutants on their surface, effectively reducing their concentration and noise level in the ambient. According to the CPCB guide line there are 15 Agro climatic regions, each of these region is further divided in to 68 sub zones based on annual rain fall, Climatic condition and soil types. The species recommended for the Greenbelt are quite adopted to such Climatic condition and grow well in the above soil types.

Extensive survey in the project area was undertaken to observe the structure and composition of vegetation. Hence a combination of plant is selected depending upon the topographical suitability and species selected as per SPCB Guideline. The soil characteristics were kept in mind. Based on this survey and environmental conditions suitable native plants species have been proposed for green belt development plan. Plantation along roads must take into account visibility aspects on curves so as to ensure safe driving. Plantation will be done in a

three tier system consisting of large trees, smaller trees and shrubs, Whereas some grasses and flowering plants are grown on lawns and garden.

1. First layer consisting of shrubs and grasses.
2. Second layer consisting of smaller trees.

Greenbelt is a set of rows of trees planted in such a fashion, to create effective barrier between the project and surroundings. The greenbelt helps to capture the fugitive emissions, attenuate the noise levels in the existing project and simultaneously improving aesthetics of the surroundings.

27. ANY OTHER INFORMATION:-

COLLECTOR, NUAPADA

9. Details of Mining Leases in the District of Nuapada (Annexure-I)

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)	Captive/Noncaptive	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)
						From	To	From	To						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	Saliha Stone quarry No.1	Nirmal Kumar Sahu, S/O Lt. Bhawani Shankar Sahu	Vill-Saliha, PS-Jonk, Dist-Nuapada, 966844905	2172,dt 23.5.2015	0.809	1.4.2015	31.3.2020	NA	NA			Captive	NO	N20°50'47.4" to 20°50'53.7" and E82°34'22.03" to 82°34'18.4"	Opencast
2	Saliha Stone quarry NO.2	Extincted													
3	Saliha Stone quarry No.3	Dharmendra Kumar Sahu, S/O Uma Shankar Sahu	Vill-Tanwat, PS/Dist-Nuapada, 7751043436	1683,dt 2.5.2016	0.858	1.4.2016	31.3.2021	NA	NA			Non-Captive	NO	N20°50'51.03" to 20°50'59.01" and E82°33'44.09" to 82°33'48.05"	Opencast

4	Saliha Stone Quarry No.4	Nardeep Singh Khanduja, S/O Narendra Singh Khanduja	Khariar Road, W.No. 19, PS-Jonk, Dist-Nuapada,9437293482	1263,dt 30.3.2015	0.87	1.4.2015	31.3.2020	NA	NA	08.08.2015(date of agreement)	Working	Captive	3665,dt 28.7.2015	N20°51'04.00" to 20°51'12.00" and E82°34'27.00" to 82°34'31.02"	Opencast
5	Saliha Stone quarry No.5	Nardeep Singh Khanduja, S/O Narendra Singh Khanduja	Khariar Road, W.No. 19, PS-Jonk, Dist-Nuapada,9437293482	1279,dt 30.3.2015	0.911	1.4.2015	31.3.2020	NA	NA	8.8.2015(date of agreement)	Working	Captive	3667,dt 28.7.2015	N20°51'03.00" to 20°51'05.00" and E82°34'29.05" to 82°34'33.00"	Opencast
6	Saliha Stone Quarry No.6	Nardeep Singh Khadujha, S/O Narendra Singh Khanduja	Khariar Road, W.No. 19, PS-Jonk, Dist-Nuapada,9437293482	4007,dt 23.9.2017	0.663	1.4.2017	31.3.2022	NA	NA	Non Operational		Captive	No	N20°50'52.00" to 20°50'57.41" and E82°34'21.03" to 82°34'23.04"	Opencast
7	Saliha Stone Quarry No. 7	Not Leased out													
8	Salhi Stone Quarry No. 8	Not Leased out													
9	Saliha Stone Quarry No. 9	Nirmal Kumar Sahu, S/O Late Bhawani Shankar Sahu	Vill-Saliha, PS-Jonk,Dist-Nuapada, 966844905	2173,dt 23.5.2015	1.004	1.4.2015	31.3.2020	NA	NA			Captive	No	N20°50'48.04" to 20°50'55.8" and E82°50'29.02" to 82°50'35.01"	Opencast

10	Boirbhadi Stone Quarry	Ramesh Sahu, S/O Rupsingh Sahu	Vill-Mudhela, PS -Jonk, Dist-Nuapada, 9777425525	1281,dt 30.3.2015	0.931	1.4.2015	31.3.2020	NA	NA	11.9.2015(date of agreement)	Working	Non-Captive	4396,dt 17.8.2015	N20°17'16.07" to 20°17'19.02" and E82°50'29.02" to 82°50'35.01"	Opencast
11	Kermeli Stone Quarry	To be extincted													
12	Biromal Stone Quarry NO. 1	Extincted													
13	Biromal Stone Quarry NO. 2	Extincted													
14	Hanspuri Stone Quarry NO.1	Equibal Hussen, S/O Akbar Ali	Khariar Road, Wno.14, PS-Jonk, Nuapada, 9437354786	1283,dt 30.3.2015	0.809	1.4.2015	31.3.2020	NA	NA	30.11.2015(date of agreement)	Working	Captive	4151,dt 17.8.2015	N20°49'30.08" to 20°49'32.08" and E82°33'24.07" to 82°33'30.05"	Opencast
15	Hanspuri Stone Quarry NO.2	Suresh Gupta, S/O Lt. Hari Prasad Gupta	Khariar Road, Wno.10, PS-Jonk, Nuapada, 9437070503	1406,dt 6.4.2015	0.809	1.4.2015	31.3.2020	NA	NA	22.8.2015(date of agreement)	Working	Captive	3885,dt 14.8.2015	N20°49'34.02" to 20°49'43.01" and E82°33'22.02" to 82°33'27.09"	Opencast

16	Hanspuri Stone Quarry NO.3	Prafulla Patel, S/O Ramniklal Patel	Khariar Road, Wno. 8,PS-Jonk,Dist-Nuapada,9937745600	1287,dt 30.3.2015	0.809	1.4.2015	31.3.2020	NA	NA	22.8.2015(date of agreement)	Working	Captive	3881,dt 14.8.2015	N20°49'30.4" to 20°49'32.5" and E82°33'22.3" to 82°33'27.8"	Opencast
17	Hanspuri Stone Quarry NO.4	Ashis Malani, Murali Manohar Malani	Khariar Road, Wno.05,PS-Jonk, Dist-Nuapada, 9938517786	1289,dt 303.2015	1.012	1.4.2015	31.3.2020	NA	NA	22.8.2015(date of agreement)	Working	Captive	3877,dt 14.8.2015	N20°49'28.2" to 20°49'30.8" and E82°33'22.03" to 82°33'27.9"	Opencast
18	Hanspuri Stone Quarry No.5	Dilip Kumar Nirmalkar, S/O Top Kumar Nirmalkar	Vill/PS-Dharambandha, Dist-Nuapada	1291,dt 30.3.2015	1.942	1.4.2015	31.3.2020	NA	NA	22.8.2015(date of agreement)	Working	Captive	3879,dt 14.8.2015	N20°49'21.5" to 20°49'36.0" and E82°33'22.5" to 82°33'27.7"	Opencast
19	Padampuri Stone Quarry No.1	Md.Sarfaraj, S/O-Equibal Hussain	Khariar Road, Wno.14,PS-Jonk, Dist-Nuapada, 9938517786	5067,dt 2.12.2015	1.619	1.4.2015	31.3.2020	NA	Na	30.11.2015(date of agreement)	Working	Captive	4354,dt 17.8.2015	N20°49'31.1" to 20°49'34.8" and E82°33'01.6" to 82°33'03.9"	Opencast
20	Padampuri Stone Quarry No.2	Prafulla Patel, S/O Ramniklal Patel	Khariar Road, Wno. 8,PS-Jonk,Dist-Nuapada,9937745600	1295,dt 30.3.2015	2.833	1.4.2015	31.3.2020	NA	Na	22.8.2015(date of agreement)	Working	Captive	3883,dt 14.8.2015	N20°49'37.7" to 20°49'41.3" and E82°32'55.2" to 82°33'03.6"	Opencast

21	Padampuri Stone Quarry No.3	Subhasish Lodh,S/O Pijush Lodh	Khariar road, wNo. 15,PS-Jonk, Dist-Nuapada,9937745600	333,dt 3.2.2014	1.62	1.1.2014	31.12.2014	NA	NA	30.07.2015	Lease period expired w.e.f 31.12.2018	Captive	3172,dt 6.5.2015	N20°49'33.8" to 20°49'36.0" and E82°32'01.6" to 82°33'04.2"	Opencast
22	Gobra Stone quarry	Extincted													
23	Padampuri Stone Quarry No. 4	Samiullah Khan, S/O Habibullah Khan	Khariar Road, Wno. 13, PS-Jonk, Dist-Nuapada	1844,dt. 10.5.2016	4.856	1.4.2016	31.3.2021	NA	NA	23.6.2017(date of agreement)		Captive	1089/DEIAA 22.5.2017	N20°49'38.0" to 20°49'42.7" and E82°32'53.0" to 82°33'13.5"	Opencast
24	Padampuri Stone Quarry No. 5	Ahsanullah Khan S/O Samiullah Khan	Khariar Road, W No. 13,PS-Jonk, Dist-Nuapada	3228,dt 13.9.2013	3.096	25.6.2013	24.6.2018	NA	NA	24.8.2015(date of agreement)	Lease period expired w.e.f 25.08.2018	Captive	3422, dt 30.5.2015	N20°49'34.7" to 20°49'39.1" and E82°32'45.4" to 82°32'50.8"	Opencast
25	Supuli Stone quarry	Manmeet Singh Gurudatta, S/O Iqbal Singh Gurudatta	Kharia road, Wno.14, PS-Jonk, Dist-Nuapada, 9938121111	1297,dt 30.3.2015	5.261	1.4.2015	31.3.2020	NA	NA	22.8.2015(date of agreement)	Working	Captive	3887,dt 14.8.2015	N20°45'11.0" to 20°45'20.0" and E82°24'39.1" to 82°24'49.5"	Opencast

26	Khamtarai Stone quarry	Santosh Kumar Meher	At-Po-Sinapali, PS-Sinapali	1106,dt 15.7.2015	2.023	1.04.2015	31.3.2020	NA	NA	29.3.2016	Working	Non-Captive	4030,dt 17.8.2015	N20°45'29.9" to 20°12'33.4" and E82°45'35.2" to 82°45'36.0"	Opencast
27	Risigaon Stone quarry-III	Naresh Kumar Agrawal	Khariar, PS-Khariar	1211,dt 5.6.2017	3.00	1.04.2017	31.3.2022	NA	NA	9.8.2016	Working	Non-Captive	636,dt 21.3.2018	N20°16'13.12" to 20°16'18.55" and E82°49'27.54" to 82°49'40.59"	Opencast
28	Risigaon Stone quarry-II	Adhiraj Panigrahi	Khariar, PS-Khariar	1821,dt 9.9.2015	2.33	1.04.2015	31.3.2020	NA	Na	1.8.2017	Working	Non-Captive	1085,dt 22.5.2017	N20°16'16.7" to 20°16'16.9" and E82°49'26.1" to 82°49'30.1"	Opencast
29	Risgaon Stone quarry No. IV	Ritesh Kumar Agrwal	Khariar, PS-Khariar	1190,dt 5.6.2017	5.6	1.04.2017	31.3.2022	NA	NA	12.12.2017	Working	Non-Captive	3890,dt 6.12.2017	N20°15'59.83" to 20°16'07.06" and E82°48'56.59" to 82°49'10.39"	Opencast
30	Baddohel Stone quarry	Pranesh Kumar Agrawal	At-Po-Khariar, PS-Khariar	1348,dt 22.7.2015	1.87	1.4.2015	31.3.2020	NA	Na	15.3.2016	Working	Non-Captive	4030,dt 17.8.2015	N20°22'04.1" to 20°22'06.9" and E82°48'03.7" to 82°48'08.5"	Opencast

31	Jholpathar Stone quarry	Deepak Kumar Mohapatra	At-Po-Khariar, PS-Khariar	1106,dt 15.7.2015	1.47	1.4.2017	31.3.2022	NA	NA	29.3.2018	Working	Non-Captive	644,dt 21.3.2018	N20°22'56.09" to 20°22'59.72" and E82°43'25.88" to 82°43'32.43"	Opencast
32	Chanabeda Stone quarry-II	Shtam Kumar Agrawal	At-Po-Khariar, PS-Khariar	1217,dt 5.6.2017	2.27	1.4.2017	31.3.2022	NA	NA	10.08.2018	Working	Non-Captive	1647,dt 21.3.2016	N20°20'14.01" to 20°20'20.66" and E82°44'28.45" to 82°44'37.01"	Opencast
33	Chanabeda Stone quarry-I	Manish Kumar Patel	At-Po-Khariar, PS-Khariar	1289,dt 8.9.2015	1.25	1.4.2015	31.3.2020	NA	NA	24.07.2017	Working	Non-Captive	1091,dt 22.5.2017	N20°19'45.3" to 20°19'45.8" and E82°45'42.3" to 82°45'42.7"	Opencast
34	Modosil Stone quarry	Naresh Kumar Bohidar	At-Po-Khariar, PS-Khariar	1794,dt 8.9.2015	1.78	1.4.2015	31.3.2020	NA	NA	30.11.2016	Working	Non-Captive	717,dt 30.01.2016	N20°18'11.3" to 20°18'12.1" and E82°44'12.3" to 82°44'12.9"	Opencast
35	Risigaon Stone quarry-I	Ashok Kumar Agrawal	At-PO-Tukla, PS-Khariar	1333,dt 21.7.2015	0.368	1.4.2015	31.3.2020	NA	NA	20.11.2015	Working	Non-Captive	4295,dt 17.8.2015	N20°16'02.3" to 20°16'03.0" and E82°49'0.01" to 82°49'01.9"	Opencast

36	Bhairajpur Stone quarry-II	Pawan Kumar Agrawal	Khariar, PS-Khariar	1205,dt 5.6.2017	2.02	1.4.2017	31.3.2022	NA	NA		Non-working(Sub-Judice in High Court)	Non-Captive	642,dt 21.3.2018	N20°13'43.03" to 20°13'50.03" and E82°44'13.11" to 82°44'17.01"	Opencast
37	Sargadi stone quarry-I	To be auction													
38	Sargadi stone quarry	K. Rajeev Choudhary	GVR Infra Project Ltd	605,dt 29.3.2017	1.61	1.4.2016	31.3.2021	NA	NA		Non working	Non Captive	634,dt 21.3.2018	N20°16'4.11" to 20°16'7.5" and E82°48'23.5" to 82°48'26.44"	
39	Sikuan stone quarry	Dindayal Agrawal	Khariar, PS-Khariar	14.7.2018	1.11	1.4.2018	31.3.2023	NA	NA			Non Captive		N20°09'30.55" to 20°09'39.11" and E82°41'00.26" to 82°41'05.25"	
40	Kodaldungri Stone quarry	Gopal Kumar Agrawal	Khariar, At-Po-Khariar	1320,dt 23.7.2016	0.708	1.4.2018	31.3.2023	NA	NA			Non Captive		N20°14'25.11" to 20°14'30.26" and E82°43'24.31" to 82°83'29.11"	
41	Bhairajpur Stone quarry-I	No bidder finalised													

42	Balipati-II Stone quarry	Khwaja Moidin	At-po-Khariar Road, Dist-Nuapada, 9937378692	1870,dt 11.7.2019	0.809	1.4.2019	31.3.2024	NA	NA	NA	Non-working	Non Captive	No	N20°40'06.10" to 20°40'10.50" and E82°38'53.13" to 82°38'58.14"	Opencast
43	Balipati-I Stone quarry	Khwaja Moidin	At-po-Khariar Road, Dist-Nuapada, 9937378692	4088,dt 7.1.2016	1.76	1.4.2016	31.3.2020	NA	NA	NA	Non-Working	Non Captive	No	N20°40'26.00" to 20°40'33.3" and E82°39'6.00" to 82°39'10.30"	Opencast
44	Balipati-IV Stone quarry	Kanak Kumar Vasani	At-po- Tarbod, Dist-Nuapada, 8018992202	1868,dt 11.7.2019	2.02	1.4.2019	31.3.2024	NA	NA	NA	Non working	Non Captive	No	N20°39'30.08" to 20°39'37.35" and E82°38'10.18" to 82°38'17.22"	Opencast
45	Balipati-V Stone quarry	Mohammed Faruq	Khariar Road, 943700478	1869,dt 11.7.2019	1.69	1.4.2019	31.3.2025	NA	NA	NA	Non working	Non Captive	No	N20°39'41.07" to 20°39'48.14" and E82°37'51.58" to 82°37'57.02"	Opencast
46	Babeghati-II Stone quarry	Indramani Hans	At-Babeghati, PO-Balipati, Dist-Nuapada, 9938187407	0480,dt 7.10.2016	1.6	1.4.2016	31.3.2021	NA	NA	11.4.2018	Working	Non Captive	1935,dt.25.4.2019	N20°39'43.64" to 20°39'48.42" and E82°38'46.12" to 82°38'50.56"	Opencast

47	Babeghati-III Stone quarry	Krushna Hans	At-Babeghati, PO-Balipati, Dist-Nuapada, 9938187407	2077,dt 30.6.2015	1.86	1.4.2018	31.3.2023	NA	NA	NA	Non working	Non Captive	No	N20°39'50.80" to 20°39'53.20" and E82°38'51.60" to 82°38'51.30"	Opencast
48	Babeghati-I Stone quarry	Upendra Hans	At-Babeghati, PO-Balipati, Dist-Nuapada, 9938187407	4072,dt 7.10.2016	1.27	1.4.2016	31.3.2021	NA	NA	12.4.2018	Working	Non Captive	640,dt.21.3.2018	N20°39'51.22" to 20°39'54.53" and E82°38'48.41" to 82°38'52.28"	Opencast
49	Bangamunda Stone quarry	Anand Kumar Agrawal	At-PO-Kantabanji, 9437039177	1151,dt 17.4.2015	4.04	1.4.2015	31.3.2020	NA	NA	3.9.2015	Working	Non Captive	3866,dt.14.8.2015	N20°44'40.00" to 20°44'43.30" and E82°39'44.80" to 82°39'46.00"	Opencast
50	Lakhna-III Stone quarry	Sarala Jain	At-Po-Khanriar road, Dist-Nuapada, 9437071888	1159,dt 17.4.2015	2.1	1.4.2015	31.3.2020	NA	Na	28.9.2015	Working	Non Captive	4346,dt.17.8.2015	N20°43'28.30" to 20°43'38.30" and E82°39'24.60" to 82°39'29.10"	Opencast

51	Lakhna-II Stone quarry	Binod Agrawal	At-Po- Sirtol, Dist-Nuapada, 9437587383	1167,dt 17.4.2015	2.91	1.4.2015	31.3.2020	NA	NA	29.9.2015	Working	Non Captive	4323,dt. 17.8.2	N20°44'03.80" to 20°44'21.50" and E82°39'29.90" to 82°39'33.80"	Opencast
52	Lakhna-V Stone quarry	Binod Agrawal	At-Po- Sirtol, Dist-Nuapada, 9437587383	3004,dt 25.8.2018	2.02	1.4.2018	31.3.2023	NA	NA	NA	Non working	Non Captive		N20°44'13.10" to 20°44'17.30" and E82°39'29.90" to 82°39'25.50"	Opencast
53	Lakhna-VIStone quarry	Naresh Kumar Agrawal	At-PO-Lakhna, Dist-Nuapada	2211,dt 5.4.2017	0.4	1.4.2017	31.3.2022	NA	NA	NA	Non working	Non Captive		N20°44'58.44" to 20°44'55.22" and E82°39'43.11" to 82°39'45.58"	Opencast
54	Muralibahal Stone quarry	Anil Kumar Agrawal	Shanti Nagar, Raipur, 9827133476	1080, dt 9.4.2015	2.63	1.4.2015	31.3.2020	NA	NA	28.9.2015	Working	Non Captive	4325,dt.17.8.2015	N20°43'48.10" to 20°43'54.80" and E82°41'26.40" to 82°41'35.40"	Opencast

55	Gandamer-II Stone quarry	Gopamani Panigrahi	At-Salingipada, PO-Thogpali, Dist-Nuapada, 9777438282	3001,dt 25.8.2019	4.04	1.4.2018	31.3.2023	NA	NA	NA	Non working	Non Captive		N20°38'32.11" to 20°38'41.53" and E82°42'44.19" to 82°42'55.15"	Opencast
56	Balipati-III Stone quarry	Khwaja Moidin	At-Po- Khariar Road, Dist-Nuapada,	1183,dt 17.4.2015	2.83	1.4.2015	31.3.2019	NA	NA	9.10.2015	Working	Non Captive	4352,dt.17.8.2015	N20°40'11.90" to 20°40'23.00" and E82°39'1.40" to 82°39'6.30"	Opencast
57	Rokal Stone quarry	Santosh Kumar Meher	At-PO-Sinapali, Ps-Sinapali, Dist-Nuapada,9777075995	754,dt 10.4.2015	2.16	1.4.2015	31.3.2020	NA	NA	19.10.2015	Working	Non Captive	4032,dt 17.8.2015	N20°13'24.6" to 20°13'27.6" and E82°37'48.6" to 82°37'51.1"	Opencast
58	Babebir Stone quarry	Jagat Ram Sagadia	At-PO-Babebir, PS-Boden, Dist-Nuapada,865875489	752,dt 10.4.2015	5.00	1.4.2015	31.3.2020	NA	NA	19.10.2015	Working	Non Captive	4114,dt 17.8.2015	N20°09'02.8" to 20°09'12.4" and E82°37'04.6" to 82°37'03.0"	Opencast
59	Jugrajpur Stone quarry-A	Sanjaya Kumar Agrawal	At-PO- Boden, PS-Boden, 9497840729	756,dt 10.4.2015	1.98	1.4.2015	31.3.2020	NA	NA	4.3.2016	Working	Non Captive	236,dt 14.1.2016	N20°14'07.8" to 20°14'15.0" and E82°37'30.6" to 82°37'41.5"	Opencast

60	Jugrajpur Stone quarry-B	Mohammad Arif	At-PO- Boden, PS-Boden, 9777039833	285,dt 6.2.2016	6.204	1.4.2015	31.3.2016	NA	NA	2.1.2017	Working	Non Captive	152,dt 12.1.2016	N20°14'33.65" to 20°14'20.42" and E82°36'57.34" to 82°37'7.71"	Opencast
61	Bakulikhunti Stone Quarry	Khalia Meher	At-Po-Gambhariguda, PS-Sinapali, Dist-Nuapada, 9777767505	1146,dt 19.5.2016	1.7	1.4.2016	31.3.2021	NA	NA	6.7.2017	Working	Non Captive	1093,dt 22.5.2017	N20°13'33.85" E82°37'21.43"	Opencast
62	Karlakote Stone quarry	No bidder finalised													
63	Ambaguda Stone quarry	No bidder finalised													
64	Dengmacha Stone quarry-I	Prasanta Kumar Naik	Sinapali	1005,dt 15.4.2015	5.66	1.4.2015	31.3.2020	NA	NA	14.1.2016	Working	Non Captive	4317,dt 17.8.2015	N20°3'10.66" to E20°3'21.39" N82°35'29.27" to E82°35'35.60"	Opencast
65	Dengmacha Stone quarry-II	Subhash Chandra Agrawal	Sinapali	1006,dt 15.4.2015	6.07	1.4.2015	31.3.2020	NA	NA	24.9.2015	Working	Non Captive	4303,dt 17.8.2015	N20°3'07.89" to E20°3'19.95" N82°35'32.51" to E82°35'39.36"	Opencast

66	Bargaon Stone quarry	Bijay Kumar Meher	Sinapali	1013,dt 15.4.2015	5.47	1.4.2015	31.3.2020	NA	NA	15.1.216	Non-Working	Non Captive	4311,dt 17.8.2015	N20°07'13.0" to E20°7'20.7" N82°39'55.3" to E82°39'57.0"	Opencast
67	Niljee Stone quarry	Akbar Meher	Bargaon	1050,dt 19.4.2018	0.74	1.4.2017	31.3.2022	NA	NA	1.6.2018	Working	Non Captive	633,dt 21.3.2018	N20°07'02.9" to E20°7'07.0"N N82°35'16.8" to E82°35'21.3"	Opencast

COLLECTOR, NUAPADA

13. List of Letter of Intent(LOI) Holders - Annexure-II

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 allocated	Validity of LOI	Use(Captive /Non-Captive)	Location of the mining lease(Latitude & Longitude)
1	2	3	4	5	6	7	8	9
1	Saliha Stone Quarry No.1	Nirmal Kumar Sahu	Vill-Saliha,PS-Jonk,Dist-Nuapada,966844905	2172,dt 23.5.2015	0.809	31.3.2020	Captive	N20°50'47.4" to 20°50'53.7" and E 82°34'22.03" to 82°34'18.4"
2	Saliha Stone Quarry No.3	Dharmendra Kumar Sahu	Vill-Tanwat, PS/Dist-Nuapada, 7751043436	1683,dt 2.5.2016	0.858	1.4.2016	Non-Captive	N20°50'51.03" to 20°50'59.01" and E 82°33'44.09" to 82°33'48.05"
3	Saliha Stone Quarry No.4	Nardeep Singh Khaduja	Khariar Road, Wno. 19, PS-Jonk, Dist-Nuapada, 9437293482	1263,dt 30.3.2015	0.870	31.3.2020	Captive	N20°50'51.04" to 20°51'12.00" and E 82°34'27.00" to 82°34'31.02"
4	Saliha Stone Quarry No.5	Nardeep Singh Khaduja	Khariar Road, Wno. 19, PS-Jonk, Dist-Nuapada, 9437293482	1279,dt 30.3.2015	0.911	31.3.2020	Captive	N20°50'04.00" to 20°51'5.00" and E 82°34'29.05" to 82°34'33.00"
5	Saliha Stone Quarry No.6	Nardeep Singh Khaduja	Khariar Road, Wno. 19, PS-Jonk, Dist-Nuapada, 9437293482	4007,dt 23.9.2017	0.663	31.3.2022	Captive	N20°50'52.00" to 20°50'57.41" and E 82°34'21.03" to 82°34'23.04"

6	Hanspuri Stone quarry NO.1	Equibal Hussen	Khariar Road, Wno. 14, PS-Jonk, Dist-Nuapada,9437354786	1283,dt 30.3.2015	0.809	31.3.2020	Captive	N20°49'30.08" to 20°49'32.08" and E 82°33'24.07" to 82°33'30.05"
7	Hanspuri Stone quarry NO.2	Suresh Gupta	Khariar Road, Wno. 10, PS-Jonk, Dist-Nuapada, 9437070503	1406,dt 6.4.2015	0.809	31.3.2020	Captive	N20°49'34.02" to 20°49'43.01" and E 82°33'22.02" to 82°33'27.09"
8	Hanspuri Stone quarry NO.3	Prafulla Patel	Khariar Road, Wno. 8, PS-Jonk, Dist-Nuapada, 9937745600	1287,dt 30.3.2015	0.809	31.3.2020	Captive	N20°49'30.4" to 20°49'32.5" and E 82°33'22.3" to 82°33'27.8"
9	Hanspuri Stone quarry NO.4	Ashis Malani	Khariar Road, Wno. 5, PS-Jonk, Dist-Nuapada, 9938517786	1289,dt 30.3.2015	1.012	31.3.2020	Captive	N20°49'28.2" to 20°49'30.8" and E 82°33'22.03" to 82°33'27.9"
10	Hanspuri Stone quarry No. 5	Dilip Kumar Nirmalkar	Vill/PS-Dharambandha, Dist-Nuapada	1291,dt 30.3.2015	1.942	31.3.2020	Captive	N20°49'21.5" to 20°49'36.0" and E 82°33'22.5" to 82°33'27.7"
11	Padampuri Stone quarry No. 1	Md. Sarfaraj, S/O Equibal Hussein	Khariar Road, Wno. 14, PS-Jonk, Dist-Nuapada,9938517786	5067,dt 2.12.2015	1.619	31.3.2020	Captive	N20°49'31.1" to 20°49'34.8" and E 82°33'01.6" to 82°33'03.9"
12	Padampuri Stone quarry No. 2	Prafulla Patel	Khariar Road, Wno. 8, PS-Jonk, Dist-Nuapada, 9937745600	1295,dt 30.3.2015	2.833	31.3.2020	Captive	N20°49'37.7" to 20°49'41.3" and E 82°32'55.2" to 82°33'03.6"

13	Padampuri Stone quarry No. 3	Subhasis Lodh	Khariar Road, W No. 15, PS-Jonk, Dist-Nuapada, 9937745600	333,dt 3.2.2014	1.62	31.12.2018	Captive	N20°49'33.8" to 20°49'36.0" and E 82°32'01.6" to 82°33'04.2"
14	Padampuri Stone quarry No. 4	Samiullah Khan	Khariar Road, W No. 13, PS-Jonk, Dist-Nuapada,	1844,dt 10.5.2016	4.856	31.3.2021	Captive	N20°49'38.0" to 20°49'42.7" and E 82°32'53.0" to 82°33'13.5"
15	Padampuri Stone quarry No. 5	Ashanullah Khan	Khariar Road, W No. 13, PS-Jonk, Dist-Nuapada,	3228,dt 13.9.2013	3.096	24.6.2018	Captive	N20°49'34.7" to 20°49'39.1" and E 82°32'45.4" to 82°33'50.8"
16	Supuli Stone Quarry	Manmeet Singh Gurudatta	Khariar Road, W No. 14, PS-Jonk, Dist-Nuapada, 9938121111	1297,dt 30.3.2015	5.261	31.3.2020	Captive	N20°45'11.0" to 20°45'20.0" and E 82°24'39.1" to 82°24'49.5"
17	Supuli Stone quarry	Manmeet Singh Gurudatta, S/O Iqbal Singh Gurudatta	Kharia road, Wno.14, PS-Jonk, Dist-Nuapada, 9938121111	1297,dt 30.3.2015	5.261	31.3.2020	Non-Captive	N20°45'11.0" to 20°45'20.0" and E82°24'39.1" to 82°24'49.5"
18	Khamtarai Stone quarry	Santosh Kumar Meher	At-Po-Sinapali, PS-Sinapali	1106,dt 15.7.2015	2.023	31.3.2020	Non-Captive	N20°45'29.9" to 20°12'33.4" and E82°45'35.2" to 82°45'36.0"
19	Risigaon Stone quarry-III	Naresh Kumar Agrawal	Khariar, PS-Khariar	1211,dt 5.6.2017	3.00	31.3.2022	Non-Captive	N20°16'13.12" to 20°16'18.55" and E82°49'27.54" to 82°49'40.59"

20	Risigaon Stone quarry-II	Adhiraj Panigrahi	Khariar, PS-Khariar	1821,dt 9.9.2015	2.33	31.3.2020	Non-Captive	N20°16'16.7" to 20°16'16.9" and E82°49'26.1" to 82°49'30.1"
21	Risgaon Stone quarry No. IV	Ritesh Kumar Agrwal	Khariar, PS-Khariar	1190,dt 5.6.2017	5.6	31.3.2022	Non-Captive	N20°15'59.83" to 20°16'07.06" and E82°48'56.59" to 82°49'10.39"
22	Baddohel Stone quarry	Pranesh Kumar Agrawal	At-Po-Khariar, PS-Khariar	1348,dt 22.7.2015	1.87	31.3.2020	Non-Captive	N20°22'04.1" to 20°22'06.9" and E82°48'03.7" to 82°48'08.5"
23	Jholpathar Stone quarry	Deepak Kumar Mohapatra	At-Po-Khariar, PS-Khariar	1106,dt 15.7.2015	1.47	31.3.2022	Non-Captive	N20°22'56.09" to 20°22'59.72" and E82°43'25.88" to 82°43'32.43"
24	Chanabeda Stone quarry-II	Shtam Kumar Agrawal	At-Po-Khariar, PS-Khariar	1217,dt 5.6.2017	2.27	31.3.2022	Non-Captive	N20°20'14.01" to 20°20'20.66" and E82°44'28.45" to 82°44'37.01"
25	Chanabeda Stone quarry-I	Manish Kumar Patel	At-Po-Khariar, PS-Khariar	1289,dt 8.9.2015	1.25	31.3.2020	Non-Captive	N20°19'45.3" to 20°19'45.8" and E82°45'42.3" to 82°45'42.7"
26	Modosil Stone quarry	Naresh Kumar Bohidar	At-Po-Khariar, PS-Khariar	1794,dt 8.9.2015	1.78	31.3.2020	Non-Captive	N20°18'11.3" to 20°18'12.1" and E82°44'12.3" to 82°44'12.9"

27	Risigaon Stone quarry-I	Ashok Kumar Agrawal	At-PO-Tukla, PS-Khariar	1333,dt 21.7.2015	0.368	31.3.2020	Non-Captive	N20°16'02.3" to 20°16'03.0" and E82°49'0.01" to 82°49'01.9"
28	Bhairajpur Stone quarry-II	Pawan Kumar Agrawal	Khariar, PS-Khariar	1205,dt 5.6.2017	2.02	31.3.2022	Non-Captive	N20°13'43.03" to 20°13'50.03" and E82°44'13.11" to 82°44'17.01"
29	Sargadi stone quarry	K. Rajeev Choudhary	GVR Infra Project Ltd	605,dt 29.3.2017	1.61	31.3.2021	Non-Captive	N20°16'4.11" to 20°16'7.5" and E82°48'23.5" to 82°48'26.44"
30	Sikuan stone quarry	Dindayal Agrawal	Khariar, PS-Khariar	14.7.2018	1.11	31.3.2023	Non-Captive	N20°09'30.55" to 20°09'39.11" and E82°41'00.26" to 82°41'05.25"
31	Kodaldungri Stone quarry	Gopal Kumar Agrawal	Khariar, At-Po-Khariar	1320,dt 23.7.2016	0.708	31.3.2023	Non-Captive	N20°14'25.11" to 20°14'30.26" and E82°43'24.31" to 82°83'29.11"
32	Balipati-II Stone quarry	Khwaja Moiddin	At-Po-Khariar Road, Dist-Nuapada, 9937378692	1870,dt.11.07.2019	0.809	31.3.2024	Non-Captive	N20°40'06.10" to 20°40'10.50" and E82°38'53.13" to 82°38'58.14"
33	Balipati-I Stone quarry	Khwaja Moiddin	At-Po-Khariar Road, Dist-Nuapada, 9937378692	4088,dt 7.1.2016	1.76	31.3.2020	Non-Captive	N20°40'26.00" to 20°40'33.3" and E82°39'6.00" to 82°39'10.30"

34	Balipati-IV Stone quarry	Kanak Kumar Vasani	At-PO-Tarbod, Dist-Nuapada	1868,dt 11.7.2019	2.02	31.3.2024	Non-Captive	N20°39'30.08" to 20°39'37.35" and E82°38'10.18" to 82°38'17.22"
35	Balipati-V Stone quarry	Mohammed Faruq	Khariar Road, 943700478	1869,dt 11.7.2019	1.69	31.3.2024	Non-Captive	N20°39'41.07" to 20°39'48.14" and E82°37'51.58" to 82°37'57.02"
36	Babeghati-II Stone quarry	Indramani Hans	At-Babeghati, PO-Balipati, Dist-Nuapada,9938187407	0480,dt 7.10.2016	1.6	31.3.2020	Non-Captive	N20°39'43.64" to 20°39'48.42" and E82°38'46.12" to 82°38'50.56"
37	Babeghati-III Stone quarry	Krushna Hans	At-Babeghati, PO-Balipati, Dist-Nuapada, 9938187407	2077,dt 30.6.2015	1.86	31.3.2022	Non-Captive	N20°39'50.80" to 20°39'53.20" and E82°38'51.60" to 82°38'51.30"
38	Babeghati-I Stone quarry	Upendra Hans	At-Babeghati,Po-Balipati, Dist-Nuapada,9938187407	4072,dt 7.10.2016	1.27	31.3.2020	Non-Captive	N20°39'51.22" to 20°39'54.53" and E82°38'48.41" to 82°38'52.28"
39	Bangamunda Stone quarry	Anand Kumar Agrawal	At-Po-Kantabanji, Dist-Balangir,9437039177	1151,dt 17.4.2015	4.04	31.3.2019	Non-Captive	N20°44'40.00" to 20°44'43.30" and E82°39'44.80" to 82°39'46.00"
40	Lakhna-III Stone quarry	Sarala Jain	At-PO-Khariar Road, Dist-Nuapada, 9437071888	1159,dt 17.4.2015	2.1	31.3.2019	Non-Captive	N20°43'28.30" to 20°43'38.30" and E82°39'24.60" to 82°39'29.10"

41	Lakhna-II Stone quarry	Binod Agrawal	At-Po- Sirtol, Dit-Nuapada, 9437587383	1167,dt 17.4.2015	2.91	31.3.2019	Non-Captive	N20°44'03.80" to 20°44'21.50" and E82°39'29.90" to 82°39'33.80"
42	Lakhna -V Stone quarry	Binod Agrawal	At-Po- Sirtol, Dit-Nuapada, 9437587383	3004,dt 25.8.2018	2.02	31.3.2022	Non-Captive	N20°44'13.10" to 20°44'17.30" and E82°39'29.90" to 82°39'25.50"
43	Lakhna - VI Stone quarry	Naresh Kumar Agrwal	At-po-Lakhna, Dist-Nuapada, 7894944343	2211,dt 5.4.2017	0.4	31.3.2021	Non-Captive	N20°44'58.44" to 20°44'55.22" and E82°39'43.11" to 82°39'45.58"
44	Muralibahal Stone quarry	Anil Kumar Aagrawal	Shanti Nagaar, Raipur, 9827133476	1080,dt 9.4.2015	2.63	31.3.2019	Non-Captive	N20°43'48.10" to 20°43'54.80" and E82°41'26.40" to 82°41'35.40"
45	Gandamer-II Stone quarry	Gopamani Panigreahi	At-Salngipada, PO-Thogpalki, 9777438282	3001,dt 25.8.2018	4.04	31.3.2022	Non-Captive	N20°38'32.11" to 20°38'41.53" and E82°42'44.19" to 82°42'55.15"
46	Balipati-III Stone quarry	Khwaja Moiddin	At-po- Khariar Road, dist-Nuapada, 9937378692	1183,dt 17.4.2015	2.83	31.3.2019	Non-Captive	N20°40'11.90" to 20°40'23.00" and E82°39'1.40" to 82°39'6.30"
47	Rokal Stone quarry	Santosh Kumar Meher	At-PO- Sinapali, Ps-Sinapali, Dist-Nuapada,9777075995	754,dt 10.4.2015	2.16	31.3.2020	Non-Captive	N20°13'24.6" to 20°13'27.6" and E82°37'48.6" to 82°37'51.1"

48	Babebir Stone quarry	Jagat Ram Sagadia	At-PO-Babebir, PS-Boden, Dist-Nuapada,865875489	752,dt 10.4.2015	5.00	31.3.2020	Non-Captive	N20°09'02.8" to 20°09'12.4" and E82°37'04.6" to 82°37'03.0"
49	Jugrajpur Stone quarry-A	Sanjaya Kumar Agrawal	At-PO- Boden, PS-Boden, 9497840729	756,dt 10.4.2015	1.98	31.3.2020	Non-Captive	N20°14'07.8" to 20°14'15.0" and E82°37'30.6" to 82°37'41.5"
50	Jugrajpur Stone quarry-B	Mohammad Arif	At-PO- Boden, PS-Boden, 9777039833	285,dt 6.2.2016	6.204	31.3.2020	Non-Captive	N20°14'33.65" to 20°14'20.42" and E82°36'57.34" to 82°37'7.71"
51	Bakulikhunti Stone Quarry	Khalia Meher	At-Po-Gambhariguda, PS-Sinapali, Dist-Nuapada, 9777767505	1146,dt 19.5.2016	1.7	31.3.2021	Non-Captive	N20°13'33.85" E82°37'21.43"
52	Dengmacha Stone quarry-I	Prasanta Kumar Naik	Sinapali	1005,dt 15.4.2015	5.66	31.3.2020	Captive	N20°3'10.66" to E20°3'21.39" N82°35'29.27" to E82°35'35.60"
53	Dengmacha Stone quarry-II	Subhash Chandra Agrawal	Sinapali	1006,dt 15.4.2015	6.07	31.3.2020	Non-Captive	N20°3'07.89" to E20°3'19.95" N82°35'32.51" to E82°35'39.36"
54	Bargaon Stone quarry	Bijay Kumar Meher	Sinapali	1013,dt 15.4.2015	5.47	31.3.2020	Non-Captive	N20°07'13.0" to E20°7'20.7" N82°39'55.3" to E82°39'57.0"

55	Niljee Stone quarry	Akbar Meher	Bargaon	1050,dt 19.4.2015	0.74	31.3.2022	Non-Captive	N20°07'02.9" to E20°7'07.0"N N82°35'16.8" to E82°35'21.3"

COLLECTOR, NUAPADA