PROPOSAL FOR SUB-BLOCK-A (PART) OF KHANDADHARAREAIN SUNDARGARH DISTRICT, ODISHA STATE FOR GENERAL-EXPLORATION (G2) UNDER NMET

(Basemetals/Ferrous/Non-ferrous/Industrial/
Strategic & Critical/Precious metals etc.)

By

ODISHA MINERAL EXPLORATION CORPORATION LTD
(OMECL)

PLACE: BHUBANESWAR
DATE: 22.01.2019

SUMMARY OF BLOCK
FOR GENERAL EXPLORATION (G2)

GENERAL INFORMATION ABOUT THE BLOCK

Features	**Details**
Block ID	**Sub-block-A (Part) of Khandadhar Area**
Exploration Agency	**OMECL** (Odisha Mineral Exploration Corporation Ltd.) Bhubaneswar, Odisha
Commodity	**Iron Ore**
Mineral Belt	**Bonai-Kendujhar belt of Sundargarh & Kendujhar districts, Odisha**
Completion Period with entire Time- Schedule to complete the project	The proposed exploration programme is planned in such a way that all the activities like, camp setting, winding, drilling, survey and associated geological works and laboratory works will be completed within **09** months' time. Report writing will take another **4** months time over lapping one month of Laboratory studies. Thus the total duration of the project shall be completed in **12 months** from the date of commencement of the project.
Objectives	**Objective of the Proposed General Exploration (G2) over already explored area of 4.039sq.km. by Directorate of Geology** i) To carry out detailed geological mapping in 1:2000 scale demarcate the rock types of iron bearing formations with the structural features i.e. strike, dip, lineation/foliation etc. ii) To drill bore holes in **200m grid** interval considering the data of bore holes drilled by Directorate of Geology. iii) To drill boreholes to prove depth continuity up to **60mtrs.** Vertical depth from the surface. iv) To upgrade the iron ore resources (332) in the area already explored by Director of Geology, Govt. of Odisha in G-3 level over**4.039 sq. km.** to G2 level as per UNFC norms & Minerals Evidence of Mineral contents Rules 2015.
Whether the work will be carried out by the proposed agency or through outsourcing and details thereof. Components to be outsourced and name of the outsourcing agency	The Core drilling, Geological work, Pitting & Trenching and Laboratory studies work will be outsourced through tender process after getting necessary statutory clearances.
Name/Number of Geoscientists	Mr. Shailender Sinha, GM(Exploration), Dr. P.K.Nayak, Manager(Geo), Mrs. Sibani Mohantal, Manager(Geo), Mr. R. Sahoo, Manager(Geo), Mr. Umakanta Behera, Manager(Geo), Mr. Dileswar Kishan, Manager(Geo).
Expected Field days (Geology) Geology Party Days	**10 months(300 days)**

1. Location	**Latitude 21°45'4.593"Nto 21°46'43.319"N** **Longitude 85°07'07.986"E to 85°07'59.223"E** The area of investigation i.e. sub-block-A (Part) of Khandadhar area falls in parts of Survey of India Topo sheet No. 73 G/1(F45N1), being one of the most important iron mining centers of Odisha. It is situated southeast of Lahunipada (Tahasil) via Barsuan in Bonai sub-division of Sundargarh district. Nearest village is Khandadhar.
2. Area(Hectares/ Square kilometers Block Area/ Forest Area/ Government Land Area/Private LandArea	**4.039 sq. km** Mostly Reserve forest area. Land details of the block not known.
3. Accessibility	The area of investigation is situated south-east of Lahunipada(Tahasil) via Barsuan in Bonai sub-division of Sundargarh district. Lahunipada lies on the National Highway 215 which connects Panikoili and Rajamunda. The nearest rail head is Barsuan, 12km away approx. on Tatanagar-Barbil section of the South-Eastern Railway. The nearest Airport is at Bhubaneswar. (370 Kms.)
4. Hydrography	The area forms a part of the catchment of the Brahmani river and criss-crossed by four perennial nalas namely Kurahinala joined in Kan river, Saingapaninala, Garghinala and Khandadhar nala.
5. Climate	The area experiences a humid-tropical climate. The period between December and March is very cold when the mercury drops down to sub-zero, bringing in occasional layers of frost during winter. It is very hot during summer with temperature rising to nearly 50^{o}C during peak period. During rainy season, heavy rains bring in flash floods.
6. Topography Topo-sheet No./ Morphology of the area	**Topo-sheet No. 73 G/1(F45N1)** The area represents a highly rugged topography and comprises dissected hills with "V" shaped valleys. The elevation of the area ranges from 400M to 1015 M above the MSL. The triangular point 743M (Mahulsukha Pahar) and 1015 M (Chelliakota Pahar) are situated on the northern and southern periphery of the area respectively.
7.Availability of base-line geosciences data Geological Map (1:50K/25K)	**1:50,000 Scale Geological Map(Geological Survey of India)**
Geochemical Map	Not Available
Geophysical Map (Aeromagnetic, ground-geophysical etc.)	Not Available

8. Justification for Detailed survey	i) Govt. of Odisha, vide Steel & Mines Dept. notification no. 4505, dt. 5.6.18 has allotted 16 blocks (Bauxite-8, Iron-8) to OMECL for up gradation of exploration up to G-2 level , for auctioning ii) As Directorate of Geology had earlier explored in part of the Sub Block A of Khandadhar block (4.039 sq.km.), OMECL will undertake G2 level exploration in the above region. iii) The Part of Block-A explored by Directorate of Geology comprises the Deposits IA (part), IB &IIA. The total reserve of IA-42.67MT (average Fe% 60.48), IB-39.58MT (average Fe% 60.54),II(A)- 2.26MT(average Fe% 63.98) is assessed by Directorate of Geology which needs upgradtion of resource to G2 level of General Exploration.

DETAILED DESCRIPTION

1. Block Summary

1.1 Physiography

The area represents a highly rugged topography and comprises dissected hills with "V" shaped valleys and constitutes a part of the Bonai-Kendujhar belt of Sundargarh &Kendujhar districts, Odisha.

1.2 Regional Geology

The little metamorphosed Precambrian volcano sedimentary rocks exposed in this belt between the Singhbhum Granite in the east and Bonai Granite in the west are classified as 'Íron Ore Group'(IOG)(Sarkar &Saha, 1963) or 'Koira Group'(Murty and Acharya, 1975). These rocks are disposed in form of a low northerly plunging 'Horse-shoe' shaped Synclinorium (Jones, 1934).The base of the Koira Group (Murty& Acharya, 1975) is marked by a pronounced unconformity over the Singhbhum Granite in the eastern side and has a sheared inter-fingering contact relationship with Bonai Granite on the western side. The Basal Formation comprises of gritty sandstone, which ranges from ortho-quartzite on one hand to pebbly sandstone and conglomerate on the other. This arenaceous unit is followed by mafic volcanic which is found all along the outer periphery of the Horse-Shoe Synclinorium. The volcanic formation comprises predominantly of Lower Volcanic Flows dominantly of mafic composition and an upper tuffaceous zone. The lava grades into purple color tuffaceous shale conformably towards the upper part and described as 'Lower Shale Formation' (Murty and Acharya, op. cit.). By the appearance of jasper and banded jasper inter-banded with the greenish and black shale towards the top, the lower shale graded into the 'Banded Iron Formation'.

The litho-stratigraphic succession of this area, as worked out by earlier workers, based on regional studies is given below;

Jones(1934)

I Upper shales, epidiorite and ash bed
BHQ with Iron ore bodies
O Shales with occasional sandstone
Purple sandstone with basal conglomerate
G _____ Unconformity_____
Other Dharwars

Saha(1994)

Singhbhum Granite
I Upper Shale with Volcanics
O BHJ with Iron ore, ferruginous quartzite
G Lower shale and acid, intermediate tuffs, local dolerite

Stratigraphy modified after Murty and Acharya;

K G
O R Upper Shale Formation
I O Banded Iron Formation
R U Volcanic Formation
A P Basal Sandstone-Quartzite

Singhbhum and Bonai Granites and metamorphosed Sediments

1.3 Geology of the Block

The stratigraphy around Khandadhar area has been established from the evidences available during geological mapping and drilling by Directorate of Geology in nearby areas and operating iron ore mines. The lithological succession is enumerated below;

	Soil
	Laterite
Upper Shale Formation	Ferruginous Shale Unit: Shales of different coloration like pink, yellow, variegated with narrow inter beds of BHJ/BHQ and derived Iron ore.
	Manganiferrous Shale Unit: Manganiferrous-Shale with associated manganese ore followed up by massive chert(brecciated at places).
Banded Iron Formation	Iron ore associated with BHJ
Lower shale	Ferruginous shale

1.4 Mineral Potentiality based on Geology, Geophysics, Geochemistry

Part of the block has been explored by Directorate of Geology, Govt. of Odisha during 2002-05 and occurrence of Iron ore is established from surface exposures and bore holes. (Geological Report enclosed)

1.5 Scope for proposed exploration

In view of above, there is scope for detailed exploration (G2 level)in the sub-block-A (part) to prove the resources.

1.6 Observation and recommendation of previous work

Previous work by Directorate of Geology, State Govt. has shown that Iron ore occurs in the allotted blocks of Khandadhar area but the economic viability of the sub-block-A has to be ascertained by detail proving for auction by the State Government.

2. Previous work

2.1 Previous Exploration in adjoining area

Directorate of Geology, Govt. of Odisha had earlier worked in part areas of the allotted blocks **(Sub-block-A, B, C, D & E)** of Khandadhar area over 10.56 sq.km. during 2002-05 and estimated a mineable reserve of **155.96 Million Tons** of Iron ore. The Geological Report on details of exploration in Khandadhar area by Directorate of Geology during 2002-05 is submitted herewith for reference.

2.2 Previous exploration in the proposed Sub-block-A of Khandadhar area

Directorate of Geology, Govt. of Odisha had done G3 level exploration in part of the sub-block-A (4.039 sq.km.). The rock types exposed and bore holes drilled are shown in the block plan (Plate-II). The details of location, litho-log of bore holes and chemical analysis results etc. are given in the Geological report.

3. Block description (BLOCK-A ,G2 Area)

The description of the sub-block-A (Part-G2 Area) is given below in Table No-1.

Table No-1

BLOCK-A (G2 AREA PILLAR-POINT)				
DEP_PILLAR	Longitude	Latitude	X_UTM	Y_UTM
A1/1	85° 7' 7.503" E	21° 47' 8.888" N	9475375.999	2469975.985
A1/2	85° 7' 44.390" E	21° 47' 8.975" N	9476516.63	2469978.874
A1/3	85° 7' 45.374" E	21° 47' 2.958" N	9476547.057	2469779.643
A1/4	85° 7' 57.854" E	21° 46' 55.525" N	9476932.953	2469533.58
A1/5	85° 8' 15.935" E	21° 47' 5.842" N	9477492.057	2469875.131
A1/6	85° 8' 16.434" E	21° 46' 46.108" N	9477507.495	2469221.807
A1/7	85° 8' 2.163" E	21° 46' 45.555" N	9477066.205	2469203.504
A1/8	85° 7' 59.223" E	21° 46' 43.319" N	9476975.278	2469129.47
A1/9	85° 8' 0.161" E	21° 46' 34.484" N	9477004.294	2468836.989
A1/10	85° 7' 52.774" E	21° 46' 24.060" N	9476775.88	2468491.894
A1/11	85° 7' 49.971" E	21° 46' 12.892" N	9476689.202	2468122.162
A1/12	85° 7' 42.603" E	21° 46' 12.878" N	9476461.364	2468121.704
A1/13	85° 7' 42.917" E	21° 45' 51.999" N	9476471.063	2467430.515
A1/14	85° 7' 36.435" E	21° 45' 47.224" N	9476270.644	2467272.464
A1/15	85° 7' 33.515" E	21° 45' 41.152" N	9476180.335	2467071.475
A1/16	85° 7' 7.846" E	21° 45' 42.030" N	9475386.616	2467100.54
A1/17	85° 7' 8.027" E	21° 45' 53.178" N	9475392.212	2467469.548
A1/18	85° 7' 13.726" E	21° 45' 59.800" N	9475568.425	2467688.782
A1/19	85° 7' 16.452" E	21° 46' 9.214" N	9475652.722	2468000.409
A1/20	85° 7' 28.965" E	21° 46' 26.688" N	9476039.654	2468578.887
A1/21	85° 7' 30.747" E	21° 46' 39.686" N	9476094.741	2469009.19
A1/22	85° 7' 23.655" E	21° 46' 42.703" N	9475875.456	2469109.07
A1/23	85° 7' 20.781" E	21° 46' 49.426" N	9475786.581	2469331.643
A1/24	85° 7' 14.691" E	21° 46' 53.241" N	9475598.257	2469457.963
A1/25	85° 7' 7.518" E	21° 46' 54.258" N	9475376.468	2469491.62
A1/1a	85° 7' 43.157" E	21° 45' 35.981" N	9476478.503	2466900.305

A1/1b	85° 7' 43.446" E	21° 45' 16.758" N	9476487.432	2466263.985
A1/1c	85° 7' 44.652" E	21° 45' 16.722" N	9476524.732	2466262.783
A1/1d	85° 7' 45.580" E	21° 45' 4.593" N	9476553.422	2465861.332
A1/1e	85° 7' 16.027" E	21° 45' 4.173" N	9475639.584	2465847.4
A1/1f	85° 7' 14.839" E	21° 45' 35.342" N	9475602.834	2466879.155

4. Planned Methodology

4.1 In accordance to the objectives set for **General exploration (G2) in sub-block-A (Part)** of Khandadhar area, Dist. Sundargarh, Odisha, geological mapping, Core drilling, core sampling, petrological and mineralogical studies are proposed in the block. The exploration will be carried out as per Minerals Evidence of Mineral contents Rules-2015 and Mineral Auction rules-2015.

Accordingly, the details of different activities to be carried out are presented in subsequent paragraphs.

4.2 Topographic Surveying

Topography survey will be carried out both in G2 area (4.039 sq.km.) and all the surface features will bemarked in the 1:2000 scale plans.The block boundary will be surveyed by DGPS& total station in WGS-84 Datum for demarcation of Block boundary points and ancillary area to facilitate the State government for auctioning of Blocks.

4.3 Geological Mapping

Geological mapping on 1:2000 scale in the G2 area (4.039 sq.km.) will be carried out by taking geological traverses. The contacts of different formations, surface mineralization, structural features, etc. will be noted in detail.

4.4 Core Drilling

i) Exploratory drilling

Based on the geological mapping (done by Directorate of Geology), analytical results of surface and delineation of iron ore, detail drilling at close spaced is being proposed in grid interval of 200 m (or closer) over **4.039 Sq.Km.** This will upgrade deposit's resource to G-2 level, enabling State Govt. of Odisha for auctioning of the block. Thus, a total of **53 nos.** of exploratory boreholes involving **3180m** of exploratory drilling have been proposed for G-2 level of exploration.

The details of proposed bore holes in the explored area of sub-block-A are given below;

Table-2

Sl No.	NO	X_NEW	Y_NEW	UTM_X	UTM_Y	Avg Depth (mtr)
1.	PBH-1	85°07'24.40"	21°47'04.98"	305984.1769	2410177.863	60
2.	PBH-2	85°07'37.70"	21°47'04.98"	306366.0323	2410173.225	60
3.	PBH-3	85°07'13.75"	21°47'02.19"	305677.115	2410095.772	60
4.	PBH-4	85°07'22.82"	21°46'56.15"	305935.2232	2409906.8	60
5.	PBH-5	85°07'31.31"	21°46'56.15"	306179.1835	2409903.835	60
6.	PBH-6	85°07'44.39"	21°46'56.15"	306554.9444	2409899.275	60
7.	PBH-7	85°07'55.32"	21°46'56.15"	306869.0815	2409895.471	60
8.	PBH-8	85°08'06.22"	21°46'56.15"	307182.0708	2409891.686	60
9.	PBH-9	85°07'33.02"	21°46'49.31"	306225.7743	2409692.783	60
10.	PBH-10	85°07'46.63"	21°46'49.31"	306616.7054	2409688.041	60
11.	PBH-11	85°07'53.60"	21°46'49.36"	306817.0577	2409687.27	60
12.	PBH-12	85°07'59.56"	21°46'49.31"	306988.3174	2409683.542	60
13.	PBH-13	85°08'05.77"	21°46'49.31"	307166.5789	2409681.388	60
14.	PBH-14	85°07'30.86"	21°46'43.27"	306161.5615	2409507.727	60
15.	PBH-15	85°07'36.66"	21°46'43.27"	306328.1969	2409505.705	60
16.	PBH-16	85°07'45.53"	21°46'43.27"	306582.832	2409502.617	60
17.	PBH-17	85°07'53.16"	21°46'43.27"	306802.0038	2409499.962	60
18.	PBH-18	85°07'36.06"	21°46'35.07"	306307.9301	2409253.734	60
19.	PBH-19	85°07'48.63"	21°46'35.07"	306668.9297	2409249.358	60
20.	PBH-20	85°07'30.18"	21°46'29.03"	306136.7603	2409069.972	60
21.	PBH-21	85°07'36.65"	21°46'29.03"	306322.574	2409067.717	60
22.	PBH-22	85°07'43.12"	21°46'29.03"	306508.3876	2409065.463	60
23.	PBH-23	85°07'49.59"	21°46'29.03"	306694.201	2409063.212	60
24.	PBH-24	85°07'31.15"	21°46'21.91"	306161.8294	2408850.635	60
25.	PBH-25	85°07'37.62"	21°46'21.91"	306347.6457	2408848.38	60
26.	PBH-26	85°07'41.63"	21°46'21.91"	306462.9587	2408846.982	60
27.	PBH-27	85°07'33.06"	21°46'18.02"	306215.3942	2408730.522	60
28.	PBH-28	85°07'22.45"	21°46'13.63"	305908.9311	2408598.981	60
29.	PBH-29	85°07'39.19"	21°46'13.63"	306389.7844	2408593.143	60
30.	PBH-30	85°07'37.84"	21°46'09.05"	306349.2613	2408453.005	60
31.	PBH-31	85°07'19.77"	21°46'04.95"	305828.545	2408332.975	60
32.	PBH-32	85°07'32.70"	21°46'04.95"	306200.188	2408328.46	60
33.	PBH-33	85°07'39.17"	21°46'04.95"	306386.0103	2408326.206	60
34.	PBH-34	85°07'26.39"	21°46'00.63"	306017.1614	2408197.939	60
35.	PBH-35	85°07'39.39"	21°46'00.63"	306390.5219	2408193.408	60
36.	PBH-36	85°07'12.02"	21°45'54.59"	305602.095	2408017.133	60
37.	PBH-37	85°07'18.49"	21°45'54.59"	305787.9215	2408014.872	60

38.	PBH-38	85°07'24.96"	21°45'54.60"	305973.7501	2408012.809	60
39.	PBH-39	85°07'39.47"	21°45'54.59"	306390.7305	2408007.554	60
40.	PBH-40	85°07'15.34"	21°45'48.55"	305695.2793	2407830.144	60
41.	PBH-41	85°07'28.51"	21°45'48.55"	306073.621	2407825.546	60
42.	PBH-42	85°07'35.45"	21°45'48.55"	306272.8734	2407823.128	60
43.	PBH-43	85°07'24.92"	21°45'42.51"	305968.1127	2407640.97	60
44.	PBH-44	85°07'31.39"	21°45'42.51"	306153.9432	2407638.714	60
45.	PBH-45	85°07'25.69"	21°45'32.53"	305986.4265	2407333.964	60
46.	PBH-46	85°07'42.23"	21°45'32.53"	306461.7503	2407328.199	60
47.	PBH-47	85°07'24.79"	21°45'25.21"	305957.8799	2407109.107	60
48.	PBH-48	85°07'40.96"	21°45'25.21"	306422.4714	2407103.471	60
49.	PBH-49	85°07'24.79"	21°45'19.17"	305955.6232	2406923.269	60
50.	PBH-50	85°07'42.77"	21°45'19.17"	306472.2625	2406917.004	60
51.	PBH-51	85°07'38.19"	21°45'12.55"	306338.1808	2406715.057	60
52.	PBH-52	85°07'29.55"	21°45'06.06"	306087.6794	2406518.455	60
53.	PBH-53	85°07'43.15"	21°45'06.06"	306478.2605	2406513.721	60
					Total	**3180**

4.5 Core Logging

The borehole cores would be logged systematically viz. details of litho-units, colour, structural feature, texture, mineralization, beside the recovery, rock quality designation and iron ore type would be recorded.

4.6 Core Sampling:

The drill core will be split into two equal halves and one part would be preserved in the core box. The other half will be powdered to -200 mesh size and the same would be divided into four parts through coning and quartering. One part of 100 gm sample will be sent to chemical laboratory for analysis, second part to be preserved in the camp as duplicate sample, third part to be utilized for preparing composite sample for individual ore band and the fourth part would kept as either check sample or sample to be used for any other specific purpose.

The length of each sample will be kept 0.50 m-1.0m depending upon the width of particular types of iron ore and its physical character (like lumpy, powdery, friable massive etc.) The primary core samples will be analyzed for three radicals i.e. Fe, SiO2, and Al203.The mineralized zone including the cores of immediate footwall and hanging wall rocks (5 mtr. length each) would be sampled at 1.0 m interval, as far as possible depending upon the intensity of mineralization, change in litho logs and core recovery etc. It is envisaged that:

a) Around **1749 nos.** of primary samples would be generated from Core drill holes (53 nos.) of **Sub-Block-A(G2)**of Khandadhar area.
b) Composite samples would be prepared from mineralized zones of primary drill samples from each borehole. It has been envisaged that **53nos**. of composite samples would be generated and will be analyzed for complete chemical analysis.
c) A total of **5 nos.** of composite samples would be analyzed for Na2O & K2O.
d) A total of **4nos.** of composite samples would be analyzed by X-ray diffraction to ascertain the presence of any uncommon minerals.

4.7 Petrological & Mineralogical Studies

Thin and polished section studies on out-crop samples will be studied for detailed petrological and mineralogical characteristics. These samples will be drawn from ore zones and host rocks. A provision of **10 specimens** for petrological and **30 specimens** for mineralogical studies has been kept for the purpose for G2 area.

5. Nature Quantum and Target

The proposed quantum of work for **G2 level** exploration in the **4.039 sq.km.** of the **Sub-block-A** of Khandadhar area is given below;

Table-3

SL. NO	Item of work	Unit	Proposed Quantum of work
1.	Topographic Survey (on 1:2000 Scale)	Sq.km	**4.039**
2.	Geological Mapping (on 1:2000 Scale)	Sq.km	**4.039**
3.	Core Drilling	m	**3180**
4.	Sample Preparation & Laboratory Studies Primary Samples (Channel Sample+ Core)		
	a)Chemical analysis for three radicals (Fe%, Si O2 & Al2O3)	Nos.	**1749**
	b) Na2O and K2O radicals	Nos.	**5**
	c) Composite samples for 7 radicals (Fe%, SiO2%, Al2O3%, P%,Mn%,S%&V2O5%)	Nos.	**53**
5.	XRD-Studies	Nos.	**4**
6.	Petrological Studies	Nos.	**10**
7.	Mineralogical Studies	Nos.	**30**
8.	Specific Gravity Determination	Nos.	**5**
9.	Bulk Density Determination	Nos.	**10**
10.	**Report Preparation**(As per Mineral Evidence of Mineral Contents)Rule-2015)/UNFC	Nos.	**1**

6. Manpower Deployment

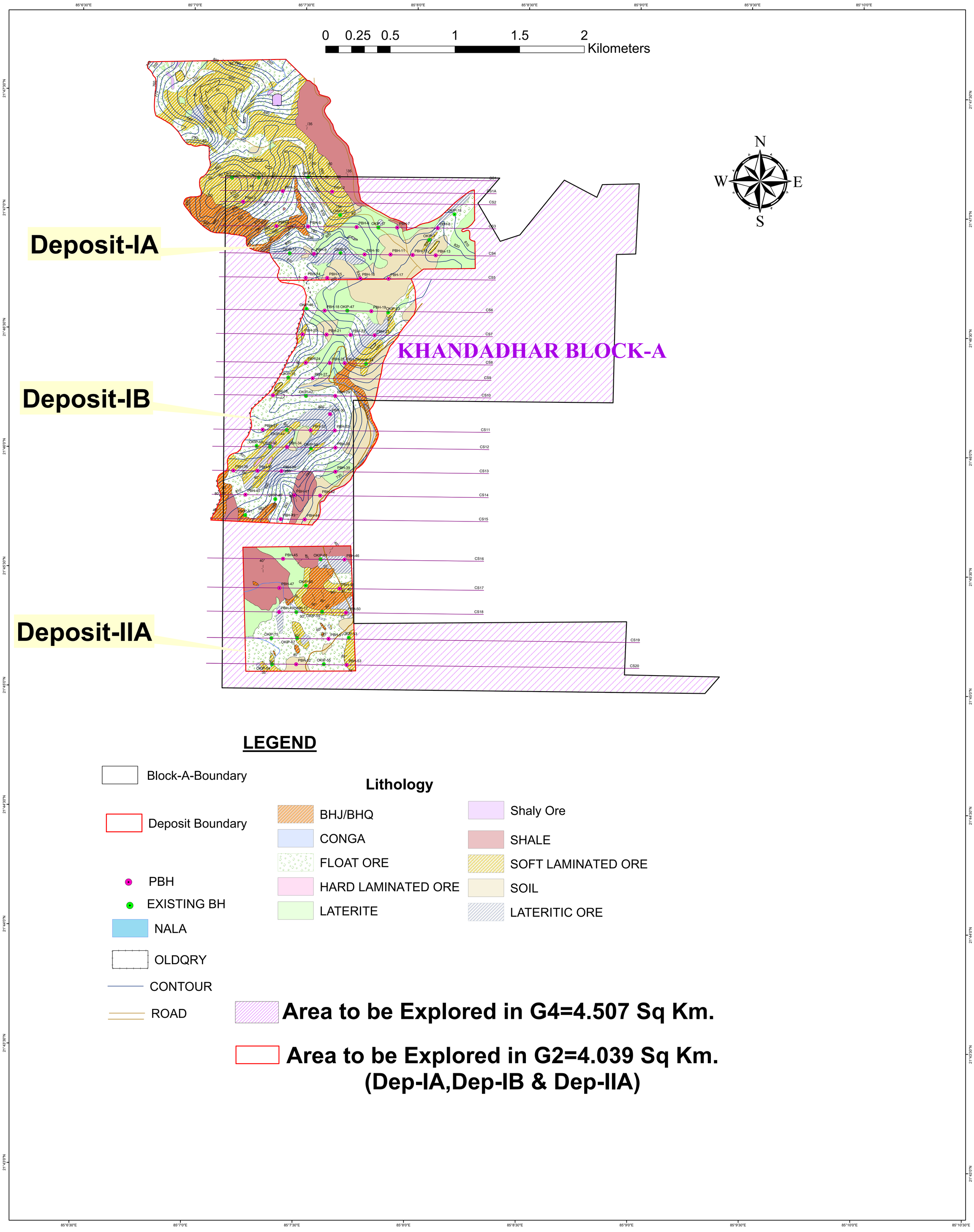
The following manpower will be deployed in the field during exploration of sub-block-A

1. Geologists-6 nos., 2. Surveyors- 2 nos., 3. Supervisors-3 nos.,

4. Attendants-4 nos., 5. Other Official staff-2 nos.

PLAN SHOWING EXPLORATION PROPOSAL (G4 &G2) IN SUB-BLOCK-A OF KHANDADHAR AREA OF SUNDARGARH DISTRICT.

1:10000 SCALE



LEGEND

- Block-A-Boundary
- Deposit Boundary
- PBH
- EXISTING BH
- NALA
- OLDQRY
- CONTOUR
- ROAD

Lithology

- BHJ/BHQ
- CONGA
- FLOAT ORE
- HARD LAMINATED ORE
- LATERITE
- Shaly Ore
- SHALE
- SOFT LAMINATED ORE
- SOIL
- LATERITIC ORE

Area to be Explored in G4=4.507 Sq Km.

Area to be Explored in G2=4.039 Sq Km. (Dep-IA,Dep-IB & Dep-IIA)

F. No. 6/2/2015-NMET/1066
Ministry of Mines
National Mineral Exploration Trust

New Delhi, the 12th February, 2019

OFFICE MEMORANDUM

Subject: Approval of 06 mineral exploration projects to be executed by Odisha Mineral Exploration Corporation Limited (OMECL).

On the recommendation of Technical-cum-Cost Committee (TCC) of NMET, the Executive Committee in its 11th meeting, held on 7th February, 2019 approved 06 mineral exploration projects to be executed by OMECL, a subsidiary of Odisha Mining Corporation, at the cost of Rs. **1517.01 Lakh**. The details of the Blocks are given at **Annexure-I.**

2. The mineral exploration projects will be funded by NMET as per the costing recommended by the TCC and approved by the Executive Committee. The Implementing Agency shall complete the same as per the approved cost estimates and time schedule, enclosed in **Annexure II & VII**.

3. The Implementing Agencies shall submit progress on monthly basis to NMET. The TCC, NMET shall review the progress of projects and provide update to the Executive Committee.

12/02/2019
(Pradeep Singh)
Director, NMET

To
The Managing Director,
Odisha Mining Corporation,
OMC House,
Bhubaneswar-751001, Odisha.

Copy for information & necessary action to:

1. Sh. D. Mohanraj, ADG, NM-II & Chairman, NMET TCC, Geological Survey of India, Seminary Hills, Nagpur- 440 006.
2. The General Manager (Exploration), Odisha Mineral Exploration Corporation Limited, 3rd Floor, Bayan Bhavan, Unit-3, Jawahar Lal Nehru Marg, Bhubaneswar-751001, Odisha.

Annexure-I

List of mineral blocks to be executed by OMECL, approved in 11th Executive Committee on 7th February, 2019

Sl. No.	*Block Name*	*Commodity*	*Stage*	*Duration*	*Approved Cost (Rs. in Lakhs; inclusive of all taxes)*
1	Keluamali, District- Kalahandi, Odisha	Bauxite	G-3	12-14 months	339.05
2	Majhingamali, District- Rayagada & Kalahandi, Odisha	Bauxite	G-3	10-12 months	187.93
3	Tarhapani (west) Block, District- Koraput, Odisha	Bauxite	G-3	10-12 months	211.61
4	Nunapaimali Block, District- Rayagada, Odisha	Bauxite	G-3	10-12 months	202.21
5	Karnapodikonda, Tehsil- Narayanpatna, District- Koraput, Odisha	Bauxite	G-3	08-10 months	170.98
6	Khandadhar Sub-block-A, District- Sundargarh, Odisha	Iron Ore	G-2	12-14 months	405.23
				Total	**1517.01**

Annexure - VIIA

APPENDIX-1ADETAILS COST ESTIMATE FOR IRON ORE IN KHANDADHAR SUB-BLOCK A(4.03 SQ KM), DISTT.-SUNDERGARH, ODISHA						
SL. No.	Item of Work	Unit	Base Rate 1.4.90 as per MECL SoR	Financial Year (2018-19)		
				MECL's Esc. Rate for F.Y 2018-19 (Rs)	Qty.	Amount (Rs)
A	**DRILLING**					
1	Surface Drilling (3 Rigs)	m.	2035	8472	3180	26940960
2	Tender preparation, Publishing & finalisation	No.	0.0		1	400000
3	Road Making (Hill Terrain)	Km	7800	28976	20	579520
	Sub Total A					**27920480**
B	**GEOLOGICAL WORK**					
1	Survey Party Days	day	1180	6056	90	545040
2	Geologist Party days	day	1541	8083	90	727470
3	Core Sampling Party days	day	525	2905	90	261450
4	Bulk Sampling Party days	day	2566	13908	10	139080
	Sub-Total B					**1673040**
C	**Pitting and Trenching (1mx1mx1m) 10 Nos**	Cu.m	395	1739	10	17390
	Sub-Total C					**17390**
D	**LABORATORY STUDIES**					
a	**Chemical Analysis**					
1	Primary Samples					
	For 3 radicals (Fe, SiO2 & Al2O3) Core sample + Internal Check sample	Nos	262	1422	1749	2487078
2	Composite Samples					
	Compostie sample for 7 radicals (Fe%,SiO2%,Al2O3%,P%,Mn%,S %, LOI)	Nos	566 (110+76x6)	3086	53	163558
	Na2O and K2O,	Nos	186	1006	5	5030
b	**Physical Analysis**					
	i) ICPMS Studies	Nos			0	0
	ii) XRD Studies on Composite	Nos	1137	5813	4	23252
	iii) Preparation of thin section	Nos	100	556	10	5560
	iv) Petrographic Studies	Nos	228	1478	10	14780
	v) Preparation of polished section	Nos	100	556	30	16680
	vi) Minerographic studies	Nos	364	2090	30	62700
	vii) Specific Gravity determination	Nos	32	194.5	5	973
	ViiI) Spectrographic Studies	Nos.	1173	5603	0	0
	ix) bulk Density	Nos	24	144	10	1440
	Sub-Total D					**2781051**
E	**Preservation of Core**					
i)	GI Core boxes	Nos.		2000	795	1590000
ii)	Transportation of Core Boxes	Km	8.8	33.0	600	19800
	Sub-Total E					**1609800**
	Total A+B+C+D+E					**34001761**
F	**EXPLORATION REPORT** - 1% of (A+B+C+D)				1	**340018**
	Total Cost (A+B+C+D+E+F)					**34341778**
	GST 18%					**6181520**
	Grand Total: with GST 18%					**40523298**
						Say Rs 405.23 Lakh

Annexure - VII B

Time Schedule /Action Plan for Iron ore in Khandadhar Block, District- Sundergarh, Odisha													
S. No.	Time/Items	Months	1	2	3	4	5	6	7	8	9	10	11	12
1	Camp Setting	Months												
2	Survey Party days	Party days												
3	Surface Drilling	m.												
4	Geologist party days	Party days												
5	Bulk Sampling party days	Party days												
6	Sampling party days Core sampling	Party days												
7	Laboratory Studies	No's												
8	Camp Winding	Months												
9	Report writing with Peer Review	Months												