REGIONAL EXPLORATION PROPOSAL FOR MANGANESE ORE IN LANJERA - FUTALA BLOCK, TEHSIL- MOHADI. TUMSAR DISTRICT- BHANDARA, MAHARASHTRA (G-4)

1.0.0 INTRODUCTION

1.1.1 In order to sustain the current level of production of Manganese (Mn) ores and to meet the future demands, the exploration of Manganese (Mn) ore is the need of the hour.

1.1.2 In India the Manganese Ore deposits mainly occurs as metamorphosed bedded sedimentary deposits associated with Gondite Series (Archaeans) of Madhya Pradesh(Balaghat, Chhindwara & Jhabua districts), Maharashtra (Bhandara & Nagpur districts), Gujarat (Panchmahal district), Odisha (Sundargarh district) and Kodurite Series (Archaeans) of Odisha (Ganjam & Koraput districts) and Andhra Pradesh (Srikakulam & Vishakhapatnam districts). The total resources of Manganese ore in the country as on 01-04-2010 are placed at 430 million tonnes as per UNFC system. Out of these resources 142 million tonnes are categorised as reserves and the balance 288million tonnes are in the remaining resources category.

1.1.3 In view of the MMDR Amendment Act-2015, Minerals (Evidence of Mineral Contents) Rule 2015 and Mineral Auction Rule-2015, Ministry of Mines, Govt. of India has directed Govt. of Maharashtra for exploration through NMET Funding to facilitate the State government for Auction of blocks. Accordingly, Govt. of Maharashtra has indicated the Lanjera – Futala area for exploration of Manganese ore.

1.1.3 On receipt of consent of Government of Maharashtra and the basic information of the area, MECL prepared the proposal for assessment of Manganese ore in the Lanjera – Futala area.

1.2.0 Location of the Area

1.2.1 The study area is located towards North & North East of Kandri and Jamb villages. Ramtek & Tumsar are the nearest railway station from the proposed study of the area. The area falls in Survey of India Toposheet No.55 O/11, bounded by Co-ordinates

a) 21°25'30" – 79°32'02"
b) 21°26'14" – 79°34'43"
c) 21°25'10" – 79°34'34"
d) 21°24'26" – 79°32'06"

The area falls in the Mohadi -Tumsar Tehsil of Bhandara districts, Maharashtra.

The area is easily approachable are from Nagpur by the Nagpur-Jabalpur National High Way No.7. The town Kandri & Jamb are situated south & south east of Tumsar the proposed study area. The area is located around 27 km East of Ramtek on Ramtek-Tumsar and around 4 km North from Kandri & Jamb. Nagpur is around 70km SW from the study area.

1.2.2. Drainage & Physiography-

The whole area is drained by the tributaries of Wainganga River. Sur Nadi drains to Ramtek tank and then converges to Wainganga River near Bhandara Town the District Headquarter.

Isolated hillocks and hill ranges forms prominent geomorphic features in the north western and eastern part of the Bhandara district. Most part of the Bhandara is plain & gently sloping towards south. Average elevation is about 300m above msl and maximum elevation is about 603 in the north western part. Wainganga River Flowing from North to South in the western part of Bhandara district forms the major drainage. Bhandara is located on the right bank of Wainganga River.

2.0.0. Previous Work

2.1.0 The Sausar Belt was first studied by Jenkins (1833) and Yoysey (1833), Mallet (1889) and Fermor (1906) were second to them to study this belt. Fermor (1909) did the systematic mapping and coined the name “Sausar Series” for the succession exposed in the Sausar Tehsil of Chhindwara district, Madhya Pradesh. He introduced the term “Gondite” for the quartz-spessartite-manganese oxide silicate rocks of the “Sausar Series”.

A detailed stratigraphy of the entire Sausar Belt proposed by Strac Zek et al (1963); Basu (1958) and Basu and Sarkar (1966) proposed a stratigraphy based on their detailed work of Ramtek Mahuli-Junewani Block.

Exploration for Mn ores was carried out by MOIL. The prominent worker were Suryanarayana & Bhoskar (1974) and Suryanarayana et al (1976).The recent work was carried out by Sahasrabuddhay and Nayak (1995) and Reddy and Thorat (1995).

Among the Private entrepreneurs who have worked in the Mn belt includes M/s Shanti Narang, M/s. Khemka Brothers and Shri C.K. Ram Choudhary who quarried the ore in Ramtek Mahuli-Junewani area.

The investigation for exploration and assessment of Mn ores including those of Ferro manganese grade was actually taken up by GSI during F.S. 1993-94 in Parsoda-Magardhan-Chokhala area, District- Nagpur, Maharashtra.

3.0.0 REGIONAL GEOLOGY OF THE AREA

3.1.1 The rocks exposed in the Bhandara district comprise Amgaon Gneissic Complex, Tirodi Gneissic complex (Archaean Palaeo Proterozoic > 25900-2200my), Bailadila Group (Palaeo Proterozoic, >2500 -2100my), Nandgaon Group (Palaeo-Meso-Proterozoic, 2500-1600my), Dongargarh Granitic, Sakoli Group, Sausar Group and Khairagarh Group (Meso Proterozoic (2000-1600m. y.). The rocks of Vindhyan Supergroup and Gondwana Supergroup occurs as isolated outcrops overlying the Amgaon Gneissic Complex in the Southern Parts. Alluvium is developed along Wainganga River & its tributaries. Isolated laterite capping have been observed.

31.2 Regionally, the area express an intensely deformed and metamorphosed suite of rocks of the Precambrian-Supra crustal Sausar Group, containing the manganese ore deposits. The gneisses, migmatites, late and post tectonic granite plutons, pegmatites and vein quartz also intermixed with Sausar Supracrustal rocks. Mixed gneisses, amphibolites, hornblende granulites, hypersthene bearing hybrid gneisses and rocks of older metamorphic group do occur in the region. The rocks of Lameta formation of late cretaceous age and overlying Deccan Trap Basalts lie over the Sausar Group with unconformity.

3.1.3 The regional litho-stratigraphic succession of the Sausar Group after Strac Zek et al (1956); Narayanswamy et al (1963) and Basu (1958) is

Strac Zek et al (1956)	Narayanswamy et al (1963)	Basu (1958)
Bichua Formation	Bichua Stage	Ramtek Group Quartzite
Junewani Formation	Junewani Stage	Chargaon Group Dolomite
Chorbaoli Formation	Chorbaoli Stage	Quartz, Quartz-Mica schist Dolomite
Manganese Ore -I	Manganese Ore -I	**Manganese Group :** Muscovite schist with gondite and manganese ore
Manganese Ore -II	Manganese Ore -II	
Manganese Horizon - III	Manganese Ore Horizon -III	Muscovite & Quartzite Quartz schist and biotite schist (granitised)
Lohangi Formation	Lohangi Stage Lohangi Sub Stage Utekata Sub Stage	**Mahuli Group** Dolomite Muscovite Quartz gneiss
Kadbi Khera Formation	Kadbi Khera Stage	Tremolite schist and marbles
Sita Saongi Formation	Sita Saongi Stage	Felspathic Gneiss Kalapathar Group
	---- Disconformity ----- Tirodi Biotite	Calc gneiss Pink marble , Calc gneiss
Tirodi Biotite Gneiss	---- Unconformity ----- Old metamorphics	Pink marble with Mn Calc gneiss **Parseoni Group:** Quartzite, gondite, rhodonite, gondite with partly or wholly. Secondary manganese ore derived from metamorphic manganese minerals.

3.1.4 Regional Structure

The rocks of Sausar Group shows polyphase deformation and metamorphism. The folds are generally overturned towards the north with the axial planes dipping steeply (60° - 80°) to the south along the southern part of the belt.

The regional structure of the Sausar Group is divisible into four belts (Narayanswamy et al 1962).

a) Southern belt of isoclinal folding.
b) Northern belt of recumbent folds, thrust blocks and nappes.
c) Central belt of gneissic formations with narrow folded schists.
d) Regions of cross folding and refolding.

3.2.0 Geology of Study Area

The rocks exposed in and around the proposed study area belongs to Sausar Group of Meso-Proterozoic age. The rock types are Quartz Chlorite Muscovite Biotite Schist and calc silicates of Lohangi Formation and Muscovite Biotite schist, Phyllites of Mansar Formation with Mn Ore and Gondite. Pink foliated granites, vein quartz and pegmatites are occurring as Intrusives in the area.

The Stratigraphic Succession in the Study Area is given below:

SAUSAR GROUP	Soil and Overburden	
	Intrusives	Vein quartz, Pegmatites, Pink foliated granite
	Mansar Formation	Muscovite biotite schist, Garnet quartz biotite schist, Felspathic at places. Grey quartzite quartz mica schist marble, Mn ore and gondite
	Lohangi Formation	Chlorite muscovite biotite schist, Calc. Silicate
	---------- Tectonic contact ----------	
Pre Sausar	Basement	Gneiss-muscovite

4.0.0. Objective of the proposed exploration programme

4.1.1. The present exploration programme has been formulated to fulfil the following objectives:-

i) To carry out Geological Mapping on 1:12500 Scale and demarcate the rock types of Manganese bearing Mansar Formation with the structural features i.e. strike, dip, lineations / foliations etc.
ii) To collect surface samples and analysed them for Mn content in the host rock and decide further course of exploration programme.
iii) In case the surface samples gives +ve results then scout boreholes (5 Numbers) shall be drilled which in turn will decide the future course of exploration programme at G-3/G2 category of UNFC.
iv) To estimate reconnaissance Manganese resources in the block as per UNFC norms & Minerals (Evidence of Mineral Contents) Rules- 2015 at G-4 level.

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5.0.0 PROPOSED SCHEME OF EXPLORATION

5.1.0 In accordance to the objectives set for earlier exploration in Mandri –Panchala Block District- Nagpur, Maharashtra the Geological Mapping and the drilling programme is proposed in the block. The exploration shall be carried out as per Mineral (Evidence & Mineral Contents) Rule -2015 and Mineral Auction Rule-2015. Accordingly, the following scheme of exploration is formulated in order to achieve the objectives. The details of different activities to be carried out are presented in subsequent paragraphs.

5.2.0 Topographic Surveying

Topographical Survey will be carried out in an area of 8.00 sq. km. of the block. All the surface features will be picked up and marked on a map at 1:12500 scale. The proposed exploration area would be tied up with the triangulation network. The reduced levels and co-ordinates of boreholes would be determined. The contouring would be done at 2m interval to prepare a detailed topographic map of the deposit. 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 Governments for Auctioning of Blocks.

5.3.0 Geological Mapping

The Regional geological map of the area provided by DMG, Maharashtra will be updated by keeping intact the earlier data and updating with the present exploration data by taking up geological traverses. Geological Mapping will be carried out on 1:12500 scale, all the lithological contact, structural features will be recorded and plotted Based on the Geological Mapping the Surface sample locations will be marked and Bed rock / surface samples will be collected. These samples will be subjected for analysis of 5 radicals i.e. Mn, SiO2, P2O5, Fe2O3 and MnO2 . The analytical data will help in planning the scout boreholes. Based on the interpretations Geological Map will be prepared which will be reference map for the future exploration (Phase-II) programme of G-3 /G-2 level as per UNFC.

5.5.0 Drilling – Based on the geological mapping and results of surface samples, 5 number of scout boreholes shall be drilled (Four for shallow level i.e. 50m vertical depth from surface and one bore hole for 2^{nd} level i.e. 100m vertical depth from surface for intersection of mineralised zones of Manganese). The exploration work of phase-I will bring the deposit to G-4 level of exploration.

In five scout boreholes around 600m drilling will be carried out. The borehole locations shall be decided based on results of Geological Mapping & surface samples.

5.5.0 Core Logging

The borehole cores would be logged systematically. Details of the lithounit viz. colour, structural feature, texture, mineralisation, besides the recovery and rock quality designation (RQD) would be recorded. The details of Manganese ore type will also be recorded in detail.

5.6.0 Sampling:

a) Surface Sampling

The surface outcrop / bedrock samples shall be collected from exposures or outcrops of Manganese bearing Mansar Formation at the time of Geological Mapping. The sample location points will depend on the outcrop / exposures available and if required small pit have to be dug for collection of sample. These samples shall be subjected for analysis of 6 (six) radicals Mn, SiO_2, P_2O_5 Fe_2O_3, MnO_2 and Insolubles.

b) Drill core sampling of scout boreholes

The drill core will be splitted into two equal halves and one part will be preserved in the core box. The other half will be powdered to - 200 # size and the same will be divided into four parts by thorough coning and quartering. One part will around 100gm sample will be sent to chemical laboratory for analysis, second part is preserved in the camp as duplicate sample, third part is utilized for preparing composite sample for individual ore band and the fourth part is kept as either check sample or sample to be used for any other specific purpose. The length of each sample will be kept 0.50m depending upon the width of particular type of Manganese ore and its physical character.

The primary core samples will be analysed for various radicals (6 radicals) such as Mn, SiO_2, P_2O_5 Fe_2O_3, MnO_2 and Insolubles.

The cores of immediate footwall and hanging wall rocks of mineralized zones (5 m length each) would be sampled at 1.0 m interval, as far as possible, depending upon the intensity of mineralisation, change in lithology and core recovery etc. It was envisaged that:

a) Around 50 Nos of primary Surface samples and 200 Nos in Drill core samples (250 N0 **Primary &** 25 **No Check samples** would be generated from the mineralized zone intersection, so obtained from the drill holes of **Mandri – Panchal Block**. All the primary and check samples would be analysed for 6 radicals i.e. Mn, SiO_2, P_2O_5 Fe_2O_3, MnO_2 and Insolubles (Core Samp. + Check Samp)

b) Around 5% of Primary drill core samples (10 Nos) will be sent to NABL accredited External Labs for analysis of for 6 radicals i.e. Mn, SiO_2, P_2O_5 Fe_2O_3, MnO_2 and Insolubles as Check Samples.

c) Composite samples would be prepared from mineralized zones of primary drill core samples from each borehole. It has been envisaged that 25 Nos. of composite sample would be generated in **Lanjera – Futala Block** and will be analysed for 6 radicals i.e. Mn, SiO_2, P_2O_5 Fe_2O_3, MnO_2 and Insolubles. A total of 15 number of composite samples of drill cores will be sent for semi quantitative spectroscopic studies for trace and minor elements (15 elements).

d) A total of 10 composite samples (Drill core) would be analysed by X-ray diffraction to ascertain the presence of any uncommon minerals.

5.7.0 Petrological Studies: Thin and polished section studies on surface / Bed rock samples to be done for detailed petrographic and mineragraphic characteristics. These samples would be drawn from ore zones and host rocks. A provision of 20 specimens for petrographic and 20 specimens for mineragraphic studies has been kept for petrographic mineragraphic studies will be taken up during Phase-II studies.

5.8.0 Specific Gravity Determination: To derive the tonnage factors, 25 nos. of samples are proposed to be subjected for specific gravity determination from surface /bed rock samples and drill core samples during present programme. The sample to be drawn from host rock, ore zones/ mineralised zones.

	Table: 5.1 Proposed Quantum of work in Lanjera- Futala Block		
Sl. No.	**Item of work**	**Unit (m)**	**Proposed quantum of Work**
1	**a) Topographic Survey & surface feature (1:12500 Scale)**	**Sq. Km.**	**8.00**
	b) Contouring (2m Contour Interval)	**Sq. Km**	**8.00**
	c) Geological Mapping (1:12500 Scale)	**Sq. Km**	**8.00**
	d) Survey work as per ME & MC Rule-2015 by Total Station & DGPS	**Sq. Km**	**8.00**
2	**Surface bedrock/ outcrop samples collection during Geological Mapping from Manganese bearing host rocks**	**Nos**	**100**
3	**Drilling (Scout Boreholes)**	**m**	**620m (5 Bhs)**
4	**Geological work** **a) Geological Core Logging**	**m**	**620m (5 Bhs)**
	Sample Preparation **b) Drill Core Sampling (Primary + Check)**	**Nos.**	**200 Primary + 20Check = 220 N0**
	c) Surface Bed Rock / out crop Samples	**Nos.**	**100**
	c) Composite sample Preparation	**Nos.**	**30 N0**
5	**Chemical Analysis** **a) Primary + Check samples for 6 radicals i.e. Mn, SiO_2, P_2O_5, Fe_2O_3, MnO_2 and Insolubles**	**Nos.**	**200 Primary + 20Check = 220 N0**
	b) Surface Bed Rock out crop Samples for 6 radicals i.e. Mn, SiO_2, P_2O_5, Fe_2O_3, MnO_2 and Insolubles	**Nos**	**100 No**
	b) Composite sample for 6 radicals i.e. Mn, SiO_2, P_2O_5, Fe_2O_3, MnO_2 and Insolubles	**Nos.**	**30 N0**
	c) External Check Samples (5%0f Primary Samples) 6 radicals i.e. Mn, SiO_2, P_2O_5, Fe_2O_3, MnO_2 and Insolubles	**Nos.**	**10 No**
6	**Physical Studies** **a) XRD – Studies**	**Nos.**	10
	b) Spectroscopic Studies (15 elements)	**Nos.**	15
7	**Petrological Samples**	**N0s**	20
8	**Mineragraphic Studies**	**N0s**	20
9	**Specific gravity Determination**	**Nos.**	**25**
10	Report Preparation **[As per Mineral (Evidence of Mineral Contents) Rule-2015]**	**N0s**	**1**

6.0.0 Time schedule and Cost estimates

6.1.0 Time schedule:

The proposed exploration programme is planned in two phases. The proposed work activities like, camp setting, survey, geological mapping and associated geological work, drilling, winding and laboratory work will be completed within 9 months time. Report writing will take another 3 months time with overlapping of one months laboratory studies. Thus the total duration of the project shall be completed in 11 months from the date of commencement of the project.

The bar chart showing activities wise time schedule is placed at Table-6.1.

6.2.0 Cost estimates:

The Project cost with provisional escalation is estimated at **Say Rs-148.98 lakhs.** The details of item wise cost estimate with inbuilt actual escalation as on 31.3.15 and provisional escalation @20% points for drilling activity and @ 25% points for Geological and Laboratory studies for the subsequent years is given in Table No. 7.2 and the summary is given below :

Summary of Cost estimates

Sl. No.	Item	Estimated Cost Rs
1	Geological, Survey & Sampling Work	58,41,630/-
2	Drilling	73,60,671/-
3	Laboratory Studies	11,99,210/-
4	Report	1,44,015/-
5	Core Preservation Charges in GI Core Boxes	3,52,680/-
	Total	**1,48,98,206/-**

Or Say, Rs. 148.98 lakhs (Rs – 1.49 Crore)

7.0.0 Justification

i. In view of MMDR Amendment Act and Mineral Auction Rule 2015 DMG Maharashtra requested MECL to take up the exploration in this block .MECL decided to take up the work under NMET funding.
ii. The proposed study area falls in the nearby Manganese Mining areas.
iii. The exploration will be helpful in estimation of Reconnaissance Resources of Manganese in the Block.
iv. The Regional exploration will help in planning of detailed exploration programme which in turn will facilitate the Maharashtra State Govt. for Auctioning of Block.

Table-7.2 Cost Estimate for Manganese Ore Mineralisation in LANJERA-FUTALA Block (PHASE-I), District- BHANDARA, Maharashtra

SL. N0.	Item of Work	Unit	Base Rate	Escalated rates (2016-17)			Grand Total	
				Esc. Rate	Qty.	Amount	Qty.	Amount
			1.4.90	(Rs)		(Rs)		(Rs)
A	**GEOLOGICAL WORK**							
1	**Survey Party days (1 party)**	day	1180	6197	210	1301370	210	**1301370**
2	**Geologist Party days (1 party)**	day	1541	8267	420	3472140	420	**3472140**
3	**Core Sampling Party days (2 party)**	day	525	2967	360	1068120	360	**1068120**
	Sub-Total A					**5841630**		**5841630**
B	**DRILLING**							
1	Surface Drilling (1 rigs)	m	2035	9496	620	5887520	620	**5887520**
2	Transportation	Km	8.8	34.0	1200	40800	1200	**40800**
3	Accomodation (One time/ Drill)		185925	709899	1	709899	1	**709899**
4	Camp Setting / Winding	- do-	68606	261951	2	523902	2	**523902**
5	Road Making (Flat Terrain)	Km	5200	19855	10	198550	10	**198550**
	Sub Total B					**7360671**		**7360671**
C	**LABORATORY STUDIES**							
1	**Chemical Analysis**							
	i) Primary & Check samples							
	a) Surface samples for 5 radicals (Mn, SiO2, P2O5, Fe2O3, MnO2)		414 (110 +76x4)	2304	100	230400	100	**230400**
	b) Drill Core Primary For 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insolubles)	Nos	490 (110 +76x5)	2742	200	548400	200	**548400**
	c) Check Samples for 6radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insolubles)	Nos	490 (110 +76x5)	2742	20	54840	20	**54840**
	d) External Check Samples from NABL Labs for 6 radical (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insolubles)	Nos	490 (110 +76x5)	2742	10	27420	10	**27420**
	ii) Composite Samples							
	a) Composite Samples for 6 Radicals (Mn, SiO2, P2O5, Fe2O3, MnO2 and Insolubles).	Nos	490 (110 +76x5)	2742	30	82260	30	**82260**
2	**Physical Analysis**							
i)	a) X-RD Studies on composite	Nos	1137	5980	10	59800	10	**59800**
ii)	b) Spectroscopic studies (15 elements-Cd,Sn,W,Sb,Mi,Ce,Nb,Ba,La,Bi,Co & Ni	Nos	1173	6358	15	95370	15	**95370**
iii)	Preparation of thin section	Nos	100	570	20	11400	20	**11400**
iv)	Petrographic Studies	Nos	228	1512	20	30240	20	**30240**
v)	Preparation of polished section	Nos	100	570	20	11400	20	**11400**
vi)	Mineragraphic Studies	Nos	364	2134	20	42680	20	**42680**
vii)	Specific Gravity determination	Nos	32	200	25	5000	25	**5000**
	Sub-Total C					**1199210**		**1199210**
	Total A+B+C					**14401511**		**14401511**
E	**EXPLORATION REPORT - 1% of (A+B+C+D)**					**144015**	**1**	**144015**
E	**a) Core Preservation Charges in GI Sheets Core Boxes (@ RS 2000 Core Box GI 22 gauge)**	**Nos**	2000	**2000**	155	**310000**	**155**	**310000**
	b) Transportation Charges of Core Boxes	**Km**	8.8	**34**	250	**42680**	**250**	**42680**
	Total E					**352680**		**352680**
	Grand Total : A to E					**14898206**		**14898206**
Note:							**Say Rs 148.98 Lakhs**	
1	**Goel Committee rates for Manganese ore are not available , hence Gold rates are taken on actual escalation as per RBI Indices as on 31-03-2015 and provisional escalation of@ 20% points for drilling and 25% points for Geological & Laboratory Studies for subsequnet years.**							
2	**** Nityanand Committee Rates with actual escalation as per RBI Index as on 31.3.2015 and provisional escalation @10% for subsequent year .**							

TABLE- 7.1 TIME SCHEDULE / ACTION PLAN FOR EXPLORATION PROPOSAL FOR MANGANESE ORE IN LANJERA-FUTALA BLOCK, (PHASE-I) DISTRICT - BHANDARA, MAHARASHTRA

Sl. N0.	Activities	Unit	Financial Year 2016-17											Total
			1	2	3	4	5	6	7	8	9	10	11	
			05 /16	06 /16	07 /16	08 /16	09 /16	10 /16	11 /16	12 /16	01 /17	02 /17	03 /17	
1	Camp Setting	Month	←	→										1 month
2	Geological Mapping			←	—	—	→							8.00 sq. Km.
3	Survey Party days (1 Party)	day		←	—	—	—	—	—	→				210
4	Geologist Party days (2 Party)	day		←	—	—	—	—	—	—	→			420
5	Drilling (1 rigs)	m.						←	—	→				620m (in 5 Boreholes)
6	Sampling (Surface Bed Rock & Drill Core Sampling) Party days, (2 party)	day			←	—	—	—	—	→				360
7	Laboratory Studies	Nos.				←	—	—	—	—	→			450
8	Camp Winding	Months									← →			1 month
9	Report Writing	Months									←	—	→	3 months
							11							

Government of India
Ministry of Mines
National Mineral Exploration Trust

F.No. 6/1/NMET-2015

New Delhi, 16th August, 2016

OFFICE MEMORANDUM

Sub: - Approval of mineral exploration projects in 13 blocks

On the recommendations of the Technical Committee of NMET, the Executive Committee in its second meeting held on 9.5.2016 has approved thirteen (13) mineral exploration projects in six states at a cost of Rs. 2292.16 lakhs.

2. Consequent to dropping of one project of bauxite in Jharkhand on the request of State Government, the number of approved projects under NMET now stands at twelve (12) in five states, at a cumulative cost of Rs. 21,61.29,777.00 (Rupees twenty one crore, sixty one lakhs, twenty nine thousand, seven hundred seventy seven only).

3. The twelve exploration projects will be funded by NMET as per the list recommended by the Technical Committee and approved by the Executive Committee. MECL will undertake exploration in these twelve blocks under a Tripartite Agreement among (Ministry of Mines (NMET), MECL and the respective State Government) and complete the same as per the approved work plan and the schedule.

5. The execution of projects will be continuously monitored and periodically reviewed by the NMET Technical Committee and MECL will submit monthly progress report to NMET Secretariat.

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To

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2/-

List of Mineral Exploration Projects approved in the 2nd meeting of the Executive Committee held on 09.05.2016

Sl. No.	Name of the Block	Mineral	Area of the Block	Work already done in the block	Work proposed in the block	Estimated cost of the project in Rs. lakh
1.	Jumka-Pathriposhi Block, Distt. Sundargarh, **Odisha**	Iron	1.71 Sq. Km.	G-3	G-2	772.68
2.	Purheibahal-Chandiposhi Block, Distt. Sundargarh, **Odisha**	Iron	1.35 Sq. Km.	G-3	G-2	265.33
3.	Mandri-Panchala Block, Distt. Nagpur, **Maharashtra**	Manganese	2.50 Sq. Km.	Virgin Area	G-4	130.31
4.	Lanjera-Futala Block, Distt. Nagpur, **Maharashtra**	Manganese	8.00 Sq. Km.	Virgin Area	G-4	148.98
5.	Ranigaon-Gondaiya Block, Distt. Bilaspur, **Chhattisgarh**	Limestone	5.00 Sq. Km.	G-4	G-3	100.52
6.	Nahardih-Madhaipur Block, Distt. Raipur, **Chhattisgarh**	Limestone	5.45 Sq. Km.	Virgin Area	G-4	27.89
7.	Sendurkhar Block, Distt. Kabirdham (Kawardha), **Chhattisgarh**	Bauxite	2.90 Sq. Km.	Virgin Area	G-4	45.13
8.	Saraipani-Dadar Block, Distt. Kabirdham (Kawardha), **Chhattisgarh**	Bauxite	0.80 Sq. Km.	Virgin Area	G-4	44.66
9.	Ghumchihai Block, Distt. – Satna, **Madhya Pradesh**	Limestone	5.00 Sq. Km.	Virgin Area	G-4	57.75
10.	Naubasta-Kolard Block, Distt. Satna, **Madhya Pradesh**	Limestone	15.00 Sq. Km.	Virgin Area	G-4	59.49
11.	Jamodi-Mahanna Block, Distt. Satna, **Madhya Pradesh**	Limestone	30.00 Sq. Km.	Virgin Area	G-4	65.36
	Total cost					**1718.10**