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Part-1-Text

MINING PLAN OF

पत्र संख्या द्वारा
VIDE LETTER No. KNK/FE/MPLN-1058/NGP Dated 22/12/2011

RASULI IRON ORE DEPOSIT

VILLAGE – RASULI DISTRICT – KANKER (C.G.)

AREA – 220.00 Hect. (Forest Land)

(A Category/Mechanized/Grant)

(AS REQUIRED UNDER RULE 22 OF MCR 1960)

FOR GRANT OF

MINING LEASE SUBMITTED TO THE COMPETENT AUTHORITY

(INDIAN BUREAU OF MINES, NAGUPUR)

22/12/11
क्षेत्रिय खान नियंत्रक
Regional Controller of Mines
भारतीय खान ब्युरो नागपुर
Indian Bureau of Mines, Nagpur

APPLICANT

M/s NAVBHARAT FUSE CO.LTD

DIST. – RAIPUR (CG)

PREPARED BY

SIDDHARTH GEO CONSULTANTS

First Floor 621/3,Ramkund,
Samta colony, Raipur(CG)

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ANNEXURES

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MINING PLAN

OF RASULI IRON ORE DEPOSIT

AREA – 220.00 Hect.

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(M/s NAVBHARAT FUSE CO. Ltd. OF RAIPUR (CG)

1.0 INTRODUCTION :

Iron ore is used in Steel industry, Ferro-alloys industries as main source of raw material. Good quality of Iron ore deposits of steel making grade is available in and around Bastar, Kanker and Rajnandgaon district of Chhattisgarh State. M/s NAVBHARAT FUSE CO. Ltd. is a sponge iron producing outfit located its plant in Raykot 30 Km.away from Jagdalpur on NH16' having capacity of 3,00,000 tonnes per year at present and the existing capacity is being planned to enhance 4 million tones per year. The applied area is required for the captive purpose of the applicant. At present applicant does not have any iron ore mines in the State of Chhattisgarh. Applicant fulfills there requirement of the iron ore from Orissa state & NMDC mines of Bailadila1and Coal from Korba mines of the SECL of C.G. Dolomite from Baradwar area and other place of Bilaspur district in C.G.

The area for which Mining Plan is prepared located in the jurisdiction of Forest range of Bhanupratappur Division, Dist – Kanker (CG). The applicant has been granted PL of the area by the State Govt. order No. F 3-115/2003/12, Raipur Dated 18.07.2006 and carried out prospecting operation in the area. Subsequently, applicant has been applied for mining lease by the letter of intention of Govt. of Chhattisgarh for preparation of Mining Plan as per their vide order no. F 3-44/2007/12, Raipur dated 1st July 2009 for Iron ore over an area of 220.00 Hect.

M/s NAVBHARAT FUSE Co. Ltd. of Raipur is accordingly engaged in manufacturing of sponge iron in the state for the last 5-6 years. The applicant has engaged the service of consultants from Siddharth Geo Consultants for the preparation of Mining Plan as required under Rule 22 of Mineral Concession Rule, 1960 & 23 of MCDR 1988 for the grant of mining lease and submitted the same to the Office of the Regional Controller of Mines, Indian Bureau of Mines, Nagpur.

23/12/11

Prepared by
SIDHHARTH GEO CONSULTANTS
RQP, Arvind Singh, RQP/NGP/225/2000/A

क्षेत्रिय खान नियंत्रक
Regional Controller of Mines
भारतीय खान ब्युरो नागपुर
Indian Bureau of Mines, Nagpur

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S.No	Forest Land	Agriculture Land	Barren Land	Total
1	220.00	Nil	Nil.	220.00 Hect.

A certified copy of the prospecting report is enclosed as - Annexure-5.

As approved Mining Plan from IBM is required for execution of the lease deed, hence, this Mining Plan is prepared and submitted under the Rule 22 of MCR 1960 for approval.

a) The List/Details of Lease granted/executed in favor of Applicant in the State/Country-

S No.	Lease reference no. & Date	Area Hect	Location/ Postal address	Type of Minerals	Remarks
1	Nil	Nil	Nil	Nil	Nil

b) If the area exceeds the maximum limit stipulated under the Act, then the justification of applying the excess area- **Not applicable at this stage**.

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c) Whether the area granted under the mining lease has been held under prospecting license earlier , if so, the details of the License area and quantum of prospecting work carried out with period of such work-

The proposed area prospected by lessee itself (through CDS Geotech- India (P) ltd.) in 2006-07 the photocopy of Prospecting Report is enclosed as - Annexure-5.

During prospecting period diamond core drilling was permitted by the forest authority to obtain sub surface information in the area. However, even for drilling there was further condition imposed by forest department, the bore hole must be closed after sample has been taken from the core , there for iron ore core obtained by drilling has been splited and sampled for analysis and was refilled in the bore hole and bore hole has been packed. Hence during the spot inspection obtained core was not shown to the inspecting officer of IBM. But borehole location and evidence of bore hole was inspected by officers of DGM Chhattisgarh and satisfactory report regarding evidence of drilled bore hole has been submitted to the Director of DGM Chhattisgarh. (Enclosed as annexure 7).

Other circumstances, everybody knows that the area is highly NAKSAL effected, and during the inspection we were warned by villagers about the NAKSAL activities and they suggested us to leave the areas as soon as possible otherwise we will be responsible for

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any unwanted causality created by NAKSAL. There for we did not try to reach up to the bore hole location and were back after inspecting huge float ore area.

d) If the prospecting is carried out by other Govt./private agency in the applied area the period of such prospecting And permission from the concerned Agency for utilization of Data with the copy of Report-

Not applicable as the area prospected by lessee itself.

e) If the Mining lease is granted without prior prospecting, the justification for adequate evidence of proved mineral to sustain mining operation economically at its for first five year of the mining plan-

The area is already prospected by lessee.

Proposed capacity of the Sponge Iron Plant is 100 TPD. The location of plant in Raykote Bastar at the distance of about 275 km from the Mine's area and the share of production from this mine is about 2.00 mt/annum.

Nominated person authorized by the company responsible for implementing the mining plans:

Shri Vishal Singh

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As approved Mining Plan from IBM is required for execution of the lease deed, hence, this Mining Plan is prepared and submitted under the Rule 22 of MCR 1960 for approval.

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2.0 GENERAL

2.1 Name and Address of the Applicant:

M/s NAVBHARAT FUSE CO. LIMITED,

Steel Division, Navbharat Udyog Bhavan

Ring road No-1, Post Ravi Gram

RAIPUR (CG)

PHONE No: (0771) 4217200

Fax- 0771-4217201

2.2 Status of the Applicant :

The applicant is a limited company engaged in mining and production of sponge iron and plant is located in village Raykot near Jagadalpur District Baster.

Name of the director authorized for signature (List of director enclosed as **annexure-5**

1. Shri Vishal singh - JT Managing Director

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2.3 Name of Mineral which applicant intends to mine:

Iron Ore

2.4 Name, Address and Registration No. of the Recognized Qualified Person who prepared the Mining Plan :

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For
SIDDHARTH GEO CONSULTANTS

621/3 Ramkund, Samta colony

Behind Life Worth hospital
Raipur (C.G.) 492001
Phone: - 0771- 4070731 (0)
098261- 42290 (Mob.)

E-mail: arvind_geo03@yahoo.co.in/ sgc_rai@yahoo.in

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2.5 Name and Address of the Prospecting Agency:

The prospecting operation has been carried out by the M/s CDS GeoTech- India Pvt. Ltd. Nagpur India – 440 025. The copy of detail prospecting report has been attached. (**As annexure–4**)

2.6 Details of the Area :

The applied are is located with latitude 20°25'26" - 20°26'27.8" and longitude 80°55'16.6" - 80°56'45" in survey of India toposheet no.64 D/15.(Key plan enclosed as **Plate- 1)** A cadastral survey map(Forest map) of the proposed area as approved by State Govt of Chhattisgarh and certified by the Concerned authority is enclosed as **Plate-2.** The detail of the area as follows:

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District and State:	**Kanker and Chhattisgarh**
Taluka:	**Bhanupratappur**
Village:	**Rasuli**
Lease Area:	Revenue land- Nil Forest land- 220.00heet **220.00 Hectare**
Whether the area is in Forest:	**YES**
Ownership/Occupancy:	**Govt. Forest land – 220.00 Hect.** **(Comp. No. 338(615)-126.00 hect.** **Comp. No. 339(616)-94.00 hect.)**
Existence of Public- Road, Railway nearby:	**No Public Road, Railway, existing near by the lease area. one Cart Road passing about 200 mt South of the area.**
Toposheet No. Latitude & Longitude	**64 D/ 15** **Latitude** 20°25'26" - 20°26'27.8" **Longitude** 80°55'16.6" - 80°56'45"
Nearest Railway Station	**Dalli-Rajhara (72 km) is the nearest railway station.**

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The area can be approached 35 km. away from tahsil head quarter Bhanupratappur via Durgkondal and, 120 km. away from Rajnandgaon located on NH6. The Nearest railway station is 72 km. at DalliRajahara, nearest airport Raipur the State capital is at 158 km. away and it is 85 km. away from the district head quarter Kanker.

2.7 Period for which Mining Lease is required :

The initial prospecting has been carried out in the area which has established a good deposit of Iron Ore. The applicant has been applied for the grant of mining lease for 30 years and letter of intention issued by the State Govt. for submission of the approved Mining Plan.

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2.8 Infrastructure:

The proposed area is located in the jurisdiction of village – RASULI the area can be approached from District headquarter, Kanker to Bhanupratappur at 50 km by the State Highway, which is 35 km.from Bhanupratappur to RASULI via Durg-Kondal and at 72 km. from Dallirajahra and 2 km from the village RASULI and connected by tar road. The nearest airport Raipur a State capital is about 158 km from the proposed area.

Due to proximity of village near the proposed area there is not much problem about the labour force for mining operation such as loading and other associated jobs. The Nearest railhead at Dalli Rajahara is about 72 km away from the proposed site. Drinking water is available from well and bore well in the village which is potable and fulfils the requirement of drinking water at site.

Electric power is available at RASULI village near the proposed site for operating crusher and other machineries if required as well as for electricity purpose. Primary school is located at RASULI. Secondary school and post office are located at Durg-Kondal.

Nearest Police station Bhanupratappur and PWD Rest House is located at Bhanupratappur. Weekly and local markets are at Durg-Kondal. Good Industrial market is also at Dallirajhara where spare parts of the equipment, other mining tools and accessories are available. There is no telephone connection at the proposed site.

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3.0 GEOLOGY & RESERVES :

3.1 Physiography:

The proposed area is located in the jurisdiction of village RASULI in Dist – Kanker (CG), and included in Survey of India Toposheet No. 64 D/15 with the coordinate of latitude 20°25'26" - 20°26'27.8" and longitude 80°55'15.6" - 80°56'45" at the height of 734.91 MSL in the NE corner near survey station NB-A9. Regionally, the proposed area is a part of south-eastern extension of Dallirajhra & Mahamaya Mines which is also known as a RASULI hill range in Khadgaon protected forest of Bhanupratappur forest division. The RASULI hill range, on which the proposed area is located, is a steeply sloping hill. The hill range showing broadly NE-SW alignment is located at its top which is about 2 km away in NW of village RASULI range rising from the ground level of about 414 MSL to 734.9 MSL.

The topography is extremely controlled by the geology of the area, and is pointer to its Lithology and structure. It will also have a significant impact on the mining project to be designed for this deposit. The proposed area is drained by a system of nallah originating from the eastern and western slopes of the hill.

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3.2 GEOLOGY OF THE AREA

1. REGIONAL GEOLOGY:

Geologically the area forms south western continuation of the Iron Ore formation exposed on the well known Dalli-Rajhara Mahamaya Iron Ore Mines, located at a distance of about 15 kms from the lease area. In the area three litho units of the Iron Ore series, namely Ferruginous Shale, Banded Hematite Quartzite (BHQ), Phyllite and Iron Ore are exposed. Out of these litho units, BHQ is more prominently and extensively exposed in the area forming high ridges and cliffs. The ridges and cliffs are followed by steep slopes which are mostly covered with BHQ boulders and float of the Iron Ore.

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The succession of rock types in the region is given below:-

Laterite

----------Unconformity----------

Iron Ore Formation

Banded Hematite quartzite

Ferruginous Shale/Phyllite

----------Unconformity----------

Granite Gneiss

1.1 **LOCAL GEOLOGY**:

Geological mapping of the area has indicated the presence of major litho-units, namely Iron Ore formation, BHQ, Phyllite and Ferruginous Shale. Iron ore is seen as smaller lenticular bodies covered by soil and scree. On the basis of geological mapping and the data obtained from drilling of six boreholes the following sequence of formation has been established for the area:-

Laterite

Iron Ore Fomation

Banded Hematite Quartzite (BHQ)

Phyllite/Ferruginous Shale

Granite Gneiss

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1.2 **DESCRIPTION OF ROCK TYPES:**

LATERITE: -

It is brownish to brownish red in color with occasional variation to brownish black color of recent origin. It is generally found to occur at the top of the cliffs and near the base of the hill.

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IRON ORE FORMATION: -

It occurs in the form of lenticular bodies at the lower slopes on the southern side of the hill. The main Iron ore bodies are exposed on the top of the hill showing broad lenticular shape with more or less E-W alignment. High grade Iron ore float is seen on the slopes and its concentration is more towards the central portion of the slope. In all, six Iron ore bodies, namely A, B, C, D, E, and F have been demarcated during geological mapping carried out under the present investigation.

BANDED HEMATITE QUARTZITE (BHQ):-

It is prominent and extensively exposed in the area, forming cliffs near the hill top.

GRANITE GNEISS: -

This type of formation is seen only at the bottom of south western side of the hill. This is observed that it is extremely laterised and recemented with pebbles and cobbles from float ore-zone.

1.3 STRUCTURE:-

As stated earlier, BHQ is the most prominent rock type exposed in the area. The general strike of BHQ is E-W having steep dip of 70° to 75° due North and NNW. The strike and dip of Iron ore bodies are mostly concordant with that of the host rock i.e. BHQ and Ferruginous Shale / Phyllite. The general strike is E-W with northerly dip. Local variations in strike and dip have been noticed. Steep dip of BHQ outcrops combined with change in the trend of BHQ indicates that the rock formation in the area have undergone folding. Repeated folding might have given rise to the present topography of the area.

1.4 MODE OF OCCURRENCE:

As stated earlier, Iron ore in the area occurs as lenticular outcrops along the southern slope of the hill. The Iron ore bodies occurring on the lower slopes are generally boulderly in nature. In all, six Iron ore bodies namely A,B,C, D,E, and F have been identified and demarcated during geological mapping and are shown on the Surface Geological plan(Refer Plate-4). Out of these six ore bodies, two ore bodies i.e. C and B are major and the

remaining four bodies i.e. A, D, E and F are smaller in dimension. The details of the Iron ore bodies are given below:-

S.No.	Ore body No.	Dimension of Ore body		B H No. Drilled	Thickness of Ore zone
		Length	Width		
1	Ore body – A	175m	90m	BH – 5	36.00m
2	Ore body – B	225m	70m	BH – 3	40.00m
3	Ore body – C	150m	75m	BH – 2	38.00m
4	Ore body – D	125m	75m	BH – 6	40.00m
5	Ore body – E	100m	50m	BH – 4	35.00m
6	Ore body - F	125m	75m	BH – 1	40.00m
7	Ore body - G	280m	130m	Exposed up to 40m in cliff side	40.m

In addition to in- situ Iron ore bodies five float ore zones namely G, H, I, J and K has been demarcated during the geological mapping. A brief description of these float ore zone is given below:-

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S. No.	No. of Float Ore Zone	Dimension of Float Ore Zone		Depth Assured (in meters)
		Length	Width	
1	Float Ore Zone-G	225 m	100 m	2.5 m
2	Float Ore Zone-H	220 m	125 m	2.5 m
3	Float Ore Zone-I	600 m	190 m	2.5 m
4	Float Ore Zone-J	450 m	175 m	2.5 m
5	Float Ore Zone-K	200 m	150 m	2.5 m

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1.5 BULK DENSITY AND RECOVERY:

For estimating the in-situ and recoverable reserves of Iron Ore and float ore, the following bulk density and recovery factors have been considered :-

Types of Ore	Bulk Density	Recovery
In-situ Ore	3.0	80
Float Ore	3.0	20

1.6 CONTROLS OF MINERALISATION:

This Iron Ore Series has been formed consequent to leaching of Silica and enrichment of Iron content in BHQ by circulating meteoric waters. To lesser extent, Ferruginous Shale/ Phyllites are also similarly enriched and converted into Iron Ore. The process is responsible for the formation of Iron ore in this area also.

1.7 QUALITY OF IRON ORE:

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Mineralogically, the Iron Ore is hematite showing cherry red streak. Physically, Iron Ore is massive to laminated in nature. Float ore is mostly massive. The present exploration by drilling of 6 boreholes has shown that the grade of Iron Ore in the area is having high SiO_2 and Phosphorous. The result of chemical analysis of the samples from ore zones encountered in the boreholes is given as Boreholes Log Sheet .

3.3

Details of Exploration :

Already Cared out

PROSPECTING AND EXPLORATION

PRELIMINARY CONSIDERATION:

Outcrops of Iron Ore are exposed as isolated lensoid bodies within the lease area. Drilling being a very reliable tool for obtaining sub-surface data continues to play the stellar role in the exploration of many mineral deposits. The quantum and configuration of drilling depends on the topography, shape, size, extent, and compositional variation, attitude of the beds and structural complexity of the deposit to be proved. It is important to ensure that the

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amount of drilling carried out, yields all the data necessary for arriving at definite and meaningful conclusions required for the exploitation of the deposit. Hence the parameters to be adhered to while planning a drilling campaign are required to be carefully drawn. Diamond core drilling is therefore carried out to:

a) Determine the lateral and vertical extent of the deposit.
b) Decipher structural complexities, if any.
c) Determine the sub-surface quality of Iron Ore.

The Geological Survey of India explored the deposit in the past by means of diamond core drilling. However, no data on the exploration carried out is available with the present lessee.

TOPOGRAPHICAL SURVEY:

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Contour surveying over an area of 3.67 sq. km. has been done using Total Station Theodolite and based on the same, survey plan on 1:10,000 and 1: 5000 with 5 m. contour interval has been prepared (Refer Plate II). The reduced levels and permanent bench-mark established by transferring it from the adjacent mine of M/s Raipur Alloys & Steel Ltd., a bench mark (TBM2, R.L. - 697.710 m) was fixed on central hill top within the mining lease area.

DIAMOND CORE DRILLING:

The entire drilling of 229.00 m in 6 boreholes was done with NX size diamond bit (core diameter 56 mm size) by deploying one drill machine and using single and double tube core – barrel to achieve maximum core recovery.

The drill holes were drilled in six ore bodies demarcated during geological mapping of the area. Detailed instructions were given to the driller by Geotech-India from time to time regarding the maximum length of run, the size of the bit, the core barrel to be used, core

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recovery, maintenance of drillers logs etc. The progress and methodology of drilling was periodically reviewed by Geologist of Geotech-India and Drilling Incharge of Geotech – India. Logging and sampling of boreholes was carried out Geologist of Geotech-India. A total drilling of 229.00 m in 6 boreholes was carried out maintaining an over all recovery of 90% and above in ore-zone and 70% and above in non-mineralized portions namely BHQ, Shale and Quartzite. The location of boreholes drilled by Geotech-India is shown on the Surface Geological Plan (Refer Plate-5). The lithology encountered in boreholes and analysis of samples drawn from borehole cores is given in Borehole Logs .

LOGING SAMPLING AND ANALYSIS:

The cores generated by drilling of boreholes in the area were logged by Geologist of CDS Geotech-India Pvt. Ltd. during logging, drillers logs were first examined for studying the core recovery. The core recovery in each run was measured. Each run was logged carefully and separately. Individual core samples were drawn by splitting the core into two equal halves. One half of the core was retained in the core box and other half was crushed, coned and quartered by applying grain size/quantity principle for forming representative samples. These samples were chemically analyzed. In all, 38 samples have been prepared from 6 boreholes and chemically analyzed.

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PROCESSING AND EVALUATION OF EXPLORATORY DATA:

The data generated from the drilling of 6 boreholes by CDS Geotech-India Pvt. Ltd. Under the present exploration were processed and evaluated conventionally.

ESTIMATION OF RESERVES

SHAPE AND SIZE OF THE DEPOSIT:

Outcrops of Iron Ore exposed on the surface in the area were delineated during geological mapping and are shown on the surface geological plan (refer Plate-5). Based on the data obtained from drilling of six boreholes and keeping in view the surface observations & study of the Iron ore bands exposed in the adjoining mine of M/s Raipur Alloys & Steel Ltd., six geological cross sections namely Y1Y1' to Y6Y6' have been prepared to show the configuration of the ore body (Refer Plate-6). These cross sections have been utilized for estimation of reserves of Iron Ore in the area.

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PARAMETERS FOR ESTIMATION OF RESERVES:

For estimating the reserves of Iron Ore, the following parameters have been adopted: - The shape, size and depth continuity of Iron Ore as brought out on the geological plan and in cross sections have been considered as the basis of for reserve estimation.

a) For estimating the reserves of Iron Ore by cross section method, in all cross sections, namely, Y1Y1' to Y6Y6' have been considered.

b) One section for individual ore body has been prepared for estimating the reserves of that particular ore body.

c) The influence of each section has been taken up to the limit of ore body on both sides of the section & Volume of inter collated BHQ has been minus in the total volume.

d) A bulk density of 3.0 has been considered for estimating the "in- situ" reserves of Iron Ore.

e) For computing recoverable reserves of the Iron Ore, a recovery factor of 80% has been considered.

f) The average grade of Iron ore has been computed on the basis of analytical data obtained from drilling of six boreholes in the area.

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Rasuli Iron ore Area has already been prospected by lessee in 2006-07 . At this stage on the basis of available data compliance of circular dated 16.10.09 for threshold value, is not possible. In the first year of plan period extensive exploration will be taken for established the reserve of Iron Ore as per Circular. UNFC codification and feasibility study will be modifying accordingly.

COMPUTATION OF RESERVES:

Estimation of reserves by cross- section method:

For estimating the reserves by cross- section method, six cross sections namely, Y1Y1' to Y6Y6' have been prepared for six ore bodies, i.e. A,B,C,D,E, F. and G The cross sectional areas of ore zone have been measured in each cross section with the help of an Electro

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Planimeter. To obtain the volume, the cross sectional areas have been multiplied by the strike influence of each section line. The volume has been multiplied by the bulk density to obtain "in-situ" reserves in tones. The recoverable reserves have been calculated by applying the recovery factor. The details of the reserves estimated by cross -section method are given in ***Annexure-I.***

CATEGORISATION OF RESERVES:

Depending on the degree of certainty, the reserves of Iron ore estimated by cross-section method have been classified into two categories, namely, "Proved" and "Probable". The following criteria have been considered in classifying the reserves: -

1) **Proved Reserves:** - The reserves of Iron ore estimated up to the depth to which the ore zone has been intersected in boreholes have been classified under 'Proved' category.

2) **Probable Reserves: -** The reserves of iron Ore estimated up to a depth of 15 m from the limit of proved reserves have been classified under 'Probable' category.

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ESTIMATION OF FLOAT ORE RESERVES:

As stated earlier, float ore zones are present along the slopes in the area. In all, five float ore zones have been demarcated during geological mapping and are numbered as float Ore Zone G, H, I, J, and K. for estimating the reserves of float ore, the area of float ore zone has been measured with the help of Electronic Planimeter. The area of float ore zone has been multiplied by an assumed depth of 2.5 mt to obtain volume in cubic meter. A recovery factor of 20% has been considered to measure an effective volume of float ore. The effective volume has been multiplied by a bulk density of 3.0 to obtain recoverable reserves of the float ore in tons. The details of estimates of float ore are given in ***Annexure-2.***

RESERVES AND GRADES:

The details of reserves of Iron ore estimated by cross-section method under Proved and Probable categories are given in Annexure-1. A summary of the 'in-situ' and recoverable reserves of the Iron ore are given in table4.6.1.1 below:-

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SUMMARY OF PROVED AND PROBABLE RESERVES OF IRON ORE

Category of Reserves	In-Situ Reserves (In million tons)	Recoverable Reserves (Mt.)
Probable (122)	9.028	7.222
Resources (332)	2.019	1.615
Total	11.047	8.837

(As per PL report and field Observation during survey, including new ore body "G")

Reserves of Float Ore:-

The details of reserve estimation of float ore are given in Annexure-2. The reserve estimation are classified under probable category.

A summary of recoverable reserve i.e. reef ore and float ore under 'proved' and 'probable' categories is given below .

SUMMARY OF RECOVERABLE RESERVES OF IRON ORE

(Reserves in million tones)

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Category of reserves	Reserves of reef ore (In Mt.)	Reserves of Float ore (in Mt.)	Total (Mt.)
Proved (111)	-	0.38	0.38
Probable & Resources	8.837	-	8.837
Total	8.837	0.38	9.217

(ii) Proposed to be carried out :

The above exploration gives enough reserves for carrying out mining operation up to 45,000 tones per year from the next five years. It is proposed to give more No. of bore-holes as recommended earlier in the seven identified ore bodies so that the delineation of the ore body will be more specific and shape and depth continuity will be well established and it

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is recommended to carry out the same during the first two year of five years mining plan of the area.

In the first year of plan period all the Iron ore, BHQ exposures and Float ore will be covered in detail exploration program for estimation of actual reserve of Iron Ore and BHQ in the area vertically as well as laterally. Reserve will be established as per Circular No 3/2010 of IBM. For float ore deposit pits and auger drilling will be proposed for knowing the actual thickness of the float ore and re-cemented ore called conga.

Primary or body will be completely delineate within the two years and explored as per UNFC norms for Iron ore deposit. Bore hole location, type of bore hole (vertical & incline bore), Number of bore holes will be decided after detail mapping & delineation or ore body exposed in the lease area.

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Position of Proposed bore holes-

S. No.	No. of bore holes	Position of bore holes	Year
1	1	South of the lease area,	1st Year
2	1	Eastern side of lease area,	1st Year
3	1	S-E side of the lease area,	1st year
4	1	N-E side of the lease area,	1st year
5	1	Nearer to SW of lease area,	1st year.

(***Number & Location of Bore holes Will be Change after detail mapping & delineation of ore body.)***

The UNFC classification of mineral resources consists of three axes and three number code system- (i) Economic viability (ii) Feasibility and (iii) Geological assessment.

The each criterion is assigned a code as a number, where first digit represents the economic axis, the second digit represents feasibility axis and the third digit represents the geological axis.

But due to restriction of 1980 forest conservation act exploration of iron ore in the PL area has not been carried out as per UNFC norms. After getting forest clearance for mining lease detailed exploration will be carried out in the first two year of plan period

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and reserve will be assess as per UNFC classification. After getting data from detail exploration, reserve of ore and mining plan will modify accordingly.

Economic Viability:

The area under consideration is served by all weather roads from Dallirajhara, Bhanupratap ,Kachche and Kanker any time in the year respectively. The quantity to be produced per year represents and justifies exploitation under competitive market as per understanding of the lessee itself. The economies will work satisfactory for the return on investment.

Classification code as per UNFC – 1 for economic axis.

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Feasibility Assessment:

The Iron ore deposit is sufficient extended in the lease area of 220.00 Hect. with sufficient thickness. A reserve as per Geological properties of exposed ore body in Bore holes gives sizeable reserve of Iron ore. The produced Iron ore will be transported to captive Sponge Iron plants by road, where the transportation cost may not be a problem as the road are good in condition. The reserves are sufficient, mining feasible in present conditions. Detailed feasibility assessment is enclosed as Annexure-13

Classification code as per UNFC – 2 for feasibility axis.

Geological Axis

The area is under consideration for Iron Ore as the part of the Bailadila Iron Ore sierise. The geological occurrence and its setting give an idea of ore reserve to sizeable quantity. Based on the present Geological conditions and Bore holes data, actual depth of the ore body will be estimated. Further, proposed exploration by drilling will help in confirming the potential and upgrade the reserves. The reserves position and grade is satisfactory to sustain the production with proposed rate.

Classification code as per UNFC – 2 for Geological axis.

**Based on the exploration carried out for the Iron ore in the area, the Iron ore is Lansoidal type of deposit. Hence on the basis of present data for this type of deposit the code as 222 of UNFC is appropriate.*

UNFC CODE IS – 122

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GEOLOGICAL RESERVE AS PER UNFC CLASIFICATION

S.No	Classification (UNFC)	UNFC code	Quantity (Mt.)	Grade
	(1)	(2)	(3)	(4)
	Total Mineral Resources (A+B)		**11.427**	**58.5-64.8 % Fe**
	A - Mineral Resave			
1)	Proved Mineral Reserve	111	**0.38** (float ore)	**58.5-64.8 % Fe**
2)	Probable Mineral Reserve	121&122	**9.028**	**58.5-64.8 % Fe**
	B- Remaining Resources			
1)	Feasibility Mineral Resource	211	-	
2)	Pre-Feasibility Mineral Resource	221&222	**2.019 mt**	**58.5-64.8 % Fe**
3)	Measured Mineral Resource	331		--
4)	Indicated Mineral Resource	332		--
5)	Inferred Mineral Resource	333		--
6)	Reconnaissance Mineral Resource	334		--

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Reserve of the Iron Ore Deposit for each mining/ production benches proposed in float ore in five years mining plan is calculated as per bench wise is shown in the 5 year production & development section. The Bench wise reserve is calculated as follows-

Year	Area of Excavation (m^2) A	Volume of Excavation (m^3) Ax 2.5= V ROM of float	25% Iron Ore in m^3 I	Iron Ore in Ton I x 3
1st Year Bench	15012	37530.0	9382.50	28147.50
2nd Year Bench	16830	42075.0	10518.75	31556.25
3rd Year Bench	20064	50160.0	12540.00	37620.00
4th Year Bench	21665	54162.5	13540.62	40621.87
5th Year Bench	24272	60680.0	15170.00	45510.00
Total	97843	244607.5	61151.87	183455.62

Cut- off grade of the mineral required is 60% Fe. The following borehole details indicate the depth wise grade of Iron Ore.

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Depth wise Grade of Iron Ore:

BOREHOLE NO. 1	LITHOLOG			AVERAGE GRADE		
	FROM 2	TO 3	DISCRIPTION 4	Fe 5	SiO2 6	P 7
B.H. No.1	0.00	2.00	Top Soil	-	-	-
	2.00	14.0	Laminated Iron Ore	62.4	4.70	0.08
	14.0	16.0	BHQ	-	-	-
	16.0	20.0	Hard massive Iron ore	63.60	4.20	0.09
	20.00	26.00	Shaly Iron ore with laminated Iron ore	59.00	6.70	-
	26.00	32.00	Laminated Iron ore	61.30	5.70	0.08
	32.00	34.00	Hard massive Iron	64.20	4.20	-
	34.00	38.00	Laminated Iron ore	61.40	5.20	0.09
	38.00	40.00	Shale	-	-	-
B.H. No.2	00.00	2.00	Laminated Iron ore	60.40	3.70	0.09
	2.00	3.00	BHQ	-	-	-
	3.00	6.00	Shaly Iron ore	59.50	-	-
	6.00	8.00	Hard massive Iron	64.30	4.30	0.08
	8.00	14.00	Laminated Iron ore	60.20	4.70	0.07
	14.00	17.00	Shaly Iron ore	-	-	-
	17.00	20.00	Laminated Iron ore	61.20	5.50	-
	20.00	22.00	Shaly Iron ore	-	-	-
	22.00	26.00	Hard massive Iron	64.80	4.5	-
	26.00	32.00	Laminated Iron ore	60.80	4.80	0.04
	32.00	34.00	Shaly Iron ore	-	-	-
	34.00	36.00	Laminated Iron ore	61.40	-	-
	36.00	38.00	BHQ	-	-	-

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1	2	3	4	5	6	7
B.H. No.3	00.00	2.00	Top soil	-	-	-
	2.00	6.00	Hard massive Iron	64.20	4.50	0.08
	6.00	16.00	Laminated Iron ore	61.60	3.80	-
	16.00	20.00	Shaly Iron ore	-	-	-
	20.00	24.00	Hard massive Iron	63.70	4.80	0.07
	24.00	30.00	Laminated Iron ore	61.7	6.50	-
	30.00	32.00	Shale	-	-	-
	32.00	36.00	Hard massive Iron	64.30	4.80	0.09
	36.00	38.00	Laminated Iron ore	61.30	5.40	-
	38.00	40.00	BHQ	-	-	-
1	2	3				
B.H. No.4	00.00	1.00	Top Soil	-	-	-
	1.00	6.00	Laminated Iron ore	60.40	3.70	0.09
	6.00	8.00	BHQ	-	-	-
	8.00	12.00	Laminated Iron ore	61.80	4.60	0.07
	12.00	16.00	Hard massive Iron	64.50	2.80	0.08
	16.00	19.00	Shaly Iron ore	-	-	-
	19.00	24.00	Laminated Iron ore	62.40	4.80	-
	24.00	28.00	Shaly Iron ore	58.50	5.80	-
	28.00	30.00	BHQ	-	-	-
	30.00	35.00	Laminated Iron ore	60.70	5.30	0.08
B.H. No.5	00.00	1.00	Top Soil	-	-	-
	1.00	6.00	Hard massive Iron	63.00	3.50	0.08
	6.00	8.00	BHQ		-	-
	8.00	12.00	Hard massive Iron	63.90	3.40	0.09
	12.00	14.00	Laminated Iron ore	61.70	4.50	-
	14.00	16.00	Shaly Iron ore	-	-	-
	16.00	26.00	Laminated Iron ore	62.40	5.40	0.08
	26.00	30.00	Shaly Iron ore with Laminated Iron ore	60.50	-	-
	32.00	34.00	Laminated Iron ore	62.10	4.60	-
	34.00	36.00	BHQ	-	-	-

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3.6 Mineable Reserves & Anticipated Life:

The mining operation in the area will commence after grant of mining lease and it is proposed to achieve the production of 3,00,000 tones per year from the 5th area. For calculating the Mineable reserve and anticipated life of the mine following point are to be considered:

I. **Mining Limits:**

The topography of proposed area is hilly and it is observed that iron ore is exposed at the top of the hilly terrain sloping down wards. Due to this reason the slicing of the deposit will commence from the top and following downwards in the area. At present it is considered that the mining limit will be upto the existence of the ore body from the top as per present information available. At present mining limit may be considered upto 690 RL.

II. **Iron ore locked at Barrier:**

A space of 7.5m barrier has to be left in the lease boundary as barrier for statutory reason for which iron ore will be locked. But it is observed from the Geological Plan no iron ore body exists in and around the lease boundaries of the proposed area. So, it can be assumed that there will not be any locking of iron ore deposit at barrier. Due to this reason there will also not be any locking of iron in the pit slope along the barrier pillars as normally happens. It can be safely considered that there will not be locking of iron ore due to barrier pillar and pit slope pillars along the barrier pillar.

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III. **Mineable Reserves:**

Mineable Reserves will be estimated after deducting the above figures from the estimated geological reserves as well as considering the mining losses. But it is already mentioned that there will not be any locking of iron ore due to barrier zone and pit slope pillars in the proposed area. Due consideration is required to be given for losses during mining operation i.e. recovery of mineral.

Hence,

- Estimated Proved Geological Reserves is 9.028 million tonnes.

Estimated Probable Geological Reserves is **2.019** million tonnes **&**

Estimated float ore Geological Reserves **0.38** million

Total **11.427** million

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-There will be mining losses and waste intercalations amounting to 20% And estimated recovery will be 80%.

Therefore, Available Mineable Reserves will be as follows:

11.047 million X 0.80 = 8.837 million tonnes.

Within the Iron ore zone ROM and saleable ore will be the same and there will not be any losses at the stage of sizing and sorting.

(IV) **Anticipated Life of the Mine:**

On the basis of float ore body the Mineable Reserve will be about 0.38 million tons and considering the proposed production of about 45,000 tons **when the mine will attain full capacity and the anticipated life of the mine will be around 9 years.** After considering the modified reserve which is expected to be available after the detail proposed exploration in the area mine life should be increased.

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4. MINING:

a) Briefly described of the existing/proposed method for developing/working the deposit with all designed parameters

It is already mentioned that the mining operation will commence after the grant of mining lease in the area. The production of Iron ore will totally depend on the captive requirement of the applicant. The deposit is of hilly nature and iron ore is mostly at the hill top and outcropping in nature.

In the 1st five years it is proposed to open a working pit in the float ore "C" from the top N to S slope direction. The face advancement will be from northern side towards southern side following contour. Besides, in initial years stress will be given to carry out float mining operation until the detail Exploration and quantity of Primary ore body is stabilized as per UNFC norms. It is already mentioned that the deposit is outcropping.

Year wise Production for First Five Years:

1 ST YEAR:

In the first year for the float ore mining one pit of 556 x27 x 2.5 mt dimension will be dig in the South Eastern part of the lease area.

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2 ND YEARS:

In the second year for the float ore mining one pit of 612 x 27.5 x 2.5 mt dimension will be dig in the South part of the 1st year pit area.

3 RD YEARS:

In the third year for the float ore mining one pit of 627 x32 x 2.5 mt dimension will be dig in the South part of the 2nd year pit area.

4TH YEARS:

In the fourth year for the float ore mining one pit of 619 x 35 x 2.5 mt dimension will be dig in the South of the 3rd year float ore mining pit.

5 TH YEARS:

In the fifth year, for the float ore mining one pit of 592 x 41x 2.5 mt dimension will be dig in the South of the 4th year float ore mining pit.

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The deposit will be opened in such a manner so, that systematic development of the float ore mining can be carried out in future.

b) Indicated quantum of development & tonnage grade of production expected pit wise as in table below

The year wise production is being projected considering the captive requirement of the applicant. But this stage of the mining, production of Iron ore will be restricted only in float ore . The applicant is having a sponge iron producing unit located near Raykote in Baster district having present capacity of about 3.0 lakhs tons per year. Enhancement in production will be proposed after detail exploration in primary ore body, and mining plan will be modify accordingly. The Year-wise production for next five years in float ore mining is tabulated below:

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Production Year	Dimension of pit in M^2 A	Volume of Float Material Ax depth=B M^3	25% Iron Ore B	Generated Float Ore in tons B x 3	Generated waste in tons	Bottom RL
1st	15012	37530.0	9382.50	28147.50	28147.50	562.5 to 532.5
2nd	16830	42075.0	10518.75	31556.25	31556.25	552.5 to 527.5
3rd	20064	50160.0	12540.00	37620.00	37620.00	537.5 to 522.5
4th	21665	54162.5	13540.62	40621.87	40621.87	522.5 to 512.5
5th	24272	60680.0	15170.00	45510.00	45510.00	507.5 to 497.5
	97843	244607.5	61151.87	183455.62	183455.62	

The specific gravity of Iron ore is considered as3 tons/m^3 and density of reject is considered about 2.5 tons/M^3.

The mine waste will be generated only from Float Ore mining containing mainly fragments of shale, quartzite, lateritic soil & part of BHQ. This waste will be stacked along the 7.5 mt boundary in first year. From second year of the Float ore mining the generated waste material will be used for backfilling of the last years' production pits.

22/12/11

क्षेत्रिय खान नियंत्रक
Regional Controller of Mines
भारतीय खान ब्युरो नागपुर
Indian Bureau of Mines, Nagpur

Prepared by
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d. Five year development plan and section is attached as plate no. 7 & 8.

e. Conceptual plan and section attached as plate no. 10 & 11

f. Proposed Rate of Production when the mine is fully developed:

It has already been indicated that the total production will depend on captive requirement of applicant which is at present around 36,691.12 tons per year and likely to be increased after detail exploration. The mine will be developed in such a fashion that it will be capable of producing more than 3,00,000 tons per year from the next scheme period.

g.Proposed Method of Mining:

It has been observed that the iron ore is mostly outcropping and existing at the top of the hillock surrounded by float ore. There is as such no overburden capping noticed in the iron ore deposit. The deposit is of bowl shape in the form of lenses and can be opened up easily. It is proposed to undertake opencast mining in the float ore with bench pattern.

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h. Opencast Working:

It is already mentioned that initially it is proposed to develop float ore Block-C. The topography of the area is undulating and having height of 735 MSL. The float block is well spread around 565msl to 500 msl with the 2.5m average thickness of iron ore has already been proved in forest pits .

It is proposed to open a working pit having excavated area of 15012 m^2 in first year which will be subsequently increased year wise up to 97843m^2. Initially there will be one bench in float ore deposit at the height of 2.5 mt. followed by contour in subsequent years of mining operation. The height of the benches will be 2.5 mt. each and spread of working will be around 97843 m^2 of area in 1st five years of mining operation.

The drilling and blasting will not be required at this stage of mining. The method of working has been shown in Plate No.7 & 8.

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Conceptual Mining Plan:

i) Mineable Reserves and Anticipated Life of the Mine:

On the basis of float ore body the Mineable Reserve will be about 0.38 million tons and considering the proposed production of about 45,000 tons **when the mine will attain** full **capacity and the anticipated life of the mine will be around 9 years.** After considering the modified reserve which is expected to be available after the detail proposed exploration in the area mine life should be increased.

ii) Ultimate size of the Pit:

Based on the available geological information, shape and size of the float Iron ore has been defined and shown the Ultimate Pit limits line in the 5 year Development & Conceptual Plans leaving 7.5m barrier. Due to mining operation the whole area will be excavated from the top and eastern slope of the hillock where the entire ore body and float ore are existing.

The Iron ore will be excavated from the float ore area and the ultimate size of the pit would be around 97843.00 m^2 and RL 562.5 to 497.5RL as per the available present information regarding nature of the float ore body.

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iii) Ultimate Capacity of the dump:

The total generation of overburden during the lease period is around 404841 m^3 has been calculated on the basis of the ultimate pit limit and float ore mining as shown in the plans and sections. The overburden including associated waste will be accommodated in the worked out pit by reclamation and plantation purposes.

iv) Post Mining Reclamations and Land use Pattern:

As stated above the size of the pits has been mentioned in Para ii). The part of the area of float ore mining i.e. 9.784 Hect. will be utilized for back filling with prior permission from IBM. After reclamation a thin layer (shale dust and sub soil generated

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from float ore mining) will be formed in the pit, so that plantation with local species can be taken up and a green belt environment will be created.

Plantation of boundary & others	:	4.00 Hect.
Pits, Quarries & Roads etc	:	20.60 Hect.
Infrastructure	:	4.00 Hect.
Total	:	28.60 Hect.
Extent of area to be backfilled & afforested:		7.06 Hect.
Tree density of planted trees/ Hect.	:	1000 trees/ Hect.

v) **Details of every five yearly scheme for production and development plan are given as below:**

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Five year Period	Iron ore Production (tons)	Overburden in M^3	Area to be Disturbed in Ha.
1st	8,60580	18,300	7.9 Hect.
2nd	15,00,000	20,500	12.50 Hect.
3rd	15,00,000	20,500	15.00 Hect.
4th	15,00,000	20,500	17.50 Hect.

On the basis of iron ore present in the proposed lease area.

vi) **For optimum exploitation and utilization of Iron ore-25mm size fines of 55% grade will be blended with higher grades of iron ore to obtain better utilization.**

vii) **Details of the five yearly Reclamation Program is give below and also shown in the Conceptual Mining Plan in Plate No. 10**

Five Year Period	Area Disturbed (Ha)	Area to be reclaimed by Backfilling (Ha)
1st Block	9.78 Hect.	7.06
2nd Block	12.50 Hect.	2.50
3rd Block	15.00 Hect.	4.00
4th Block	17.50 Hect.	4.50
Total	54.78	18.06

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Proposed Exploration:

The above exploration gives enough reserves for carrying out mining operation up to about 2,80,000 tonnes per year for next five years. It is proposed to give 5 no.(or more as required) of bore-holes as recommended earlier in the four identified ore bodies so that the delineation of the ore body is more specific and shape and depth continuity is well established and it is recommended to carry out the same during 1st years of mining operation in the area.

4.5.1 Extent of Mechanization:

The excavation will be carried out by using excavator machines/manually. The excavated material will be sorted and sized at the surface stacking site or at the quarry bottom stacking site. The sizing will be done manually by hammers after blasting and sorting. The Drilling and blasting will be through conventional methods along with compressor and Wagon drill. Different machines used for mining purposes are given below:

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The list of mining machinery and their justification is given below- (after detail exploration & mining in the primary ore body)

Type	Nos.	Size/capacity	Make	Motive Power
(1) DRILLING				
1. DTH Drills	3	115-150 MM dia	AtlasCapco / IR	Diesel
2. Compressor	3	450cfm		Diesel
(2) EXCAVATION/LOADING				
1.Excavators	-	-	-	-
2.Excavators cum Loader	2	1.2cum	HM/CAT/BE ML/VOLVO	Diesel
(3) HAULAGE / TRANSPORT				
1.Tippar	12	10 tons	Tata	Diesel
2. Jeeps	1		Tata	Diesel
(4) OTHERS				
7. Water Tanker	1	10000 ltr	Tata	Diesel
8. Crushing Plant	-	-		-
9. DG set / Others*	-	-	-	-
10. Dozers	2	15.2cu.m / 320 HP	BEML	Diesel
11. Explosive Van	1	5 tons	Tata	Diesel
12. Service Van	1		Tata	Diesel
13. Tractor	1		Mahindra	Diesel
14. Ambulance	1			

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Calculation for the adequacy of Excavators:

Each excavator cum loader of 1.2 cum bucket capacity can handle around 1000 tons of material per shift and can work for 12 hours a day i.e. two shifts a day. Hence total one excavators will be required.

Hourly Production/Development	:	90 tons
Effective working hours/day	:	12 Hours (in two shifts)
Material handling/day	:	90 x 12 = 1080 tons/day
For 300 working days/year	:	300 x 1080 = 3,24,000 tons /annum

For Tipper having capacity of 10 tons:

For production/development if the lead distance is 2.5 kms on an average and 20 kmph is the average speed.

No. of trips to be made per hour	:	3 trips (20 minutes/trip)
Effective working hours per day	:	12 hours
No. of trips/day for 10 Tipper	:	108 trips
Per day handling from an excavator:		1,080 tpd

(A dumper can carry 10 tons effectively on an average /trip)

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Expected no. of working days	:	300 (Excluding general holidays etc.)
Total handling	:	1,080 x 300 = about 324000 TPA

(Extra dumper, excavator, Loader will be in standby.)

(b) Transport from mine head to the destination:

All ROM sized Iron ore will be hauled to surface stacking site to the captive unit by hired trucks which will be hired from local contractors. It has been envisaged to construct the approach road from top to the bottom of the hillock.

The sharpening of tools and minor maintenance will be carried out at the site itself. In case of major repair or overall maintenance the equipments will be sent to the workshop of the manufacturers/authorized agencies.

4.5.1 Drilling:

At this ***stage of mining of float ore no drilling will required.*** In case of primary ore , there is no overburden in the iron ore deposit is found. Iron ore is hard and it can not be removed without drilling and blasting. The holes will be drilled by compressed air

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operated Wagon drill in rows and the spacing between two holes in a row will be 5.0m and the burden will be 4.5m. The depth of the hole will be up to 5-10 m and the dia of the holes will be 115. The benches will be drilled and blasted with 5-10m lift. No drilling and blasting will be required for float ore mining. It will be simply picked up manually and stacked in the predetermined place for further dispatch.

4.5.3 Loading:

It is already mentioned that the mining operation will be of manual nature. In case of Iron ore after blasting it will be fragmented and it will be sized. The iron ore float will be loaded to the trucks or tippers for onward dispatch to the captive plant of the applicant which is located near Raipur.

4.5.4 Hauling/**Transport:**

The blasted, fragmented iron ore as well as float ore will be manually loaded to the trucks tippers for onward dispatch to captive unit of the applicant which is located near Jagdalpur.

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5.0 BLASTING:

a) Broad Blasting Parameters:

At this stage blasting will not required for float ore mining

The mining operation in primary ore will be in medium scale and average production will be in the range of about 40,000 to ,3,00,000 tons per year at the scheme of the next 5th year as proposed. Details of the blasting parameters given in the following table on part bench height of 5m/

Details of Blasting Parameters

Depth and diameter of hole	:	depth – 5 m-10 m and dia. - 84mm
Blasting Pattern	:	Two rows blasting having length of Free face
Spacing between holes	:	5.4 m
Burden	:	4.5m

Quantity broken /hole

4.5x 5.4 x 10 x 3 ton/M^3= 729t

Charge per hole	:	6-8 of Gelatin along with Detonators.
Powder factor	:	6-8 tons per kg explosives.
Consumption of explosives	:	Per holes 729/ 8= 91 kg

About 37.5 tans explosive used in year.

b) Types of Explosives to be used:

As the iron ore is hard therefore medium charges of special gelatin with detonators will be used for breaking the rock formation.

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c) Powder factor in ore and overburden/waste/development heading/ stope –

d) Whether secondary blasting is needed, if so describe briefly- No

e) Storage of Explosives:

The production is moderate and there will be a regular blasting carried out so the explosives to be used are gelatin with detonators. There will be 10 nos. of holes blasted per round. Normally, blasting will be carried out every day depending on requirement of the production. The monthly requirement of special gelatin will be around 2366 kg along with about 1000 nos. of detonators. The applicant will install a 5000kg explosive magazine with a capacity of 8000 nos. of detonators after the grant of mining lease in the area.

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6.0 MINE DRAINAGE:

The topography of the area is hilly in nature and there are as such no water sources in the area from which inherent seepage of water will occur and for this reason this area does not require any specific drainage pattern. It is observed from the Surface Plan that there are few small nallas emitting from the area which acts as relief of the area during rainy season as the deposit resemble the shape of small hillock. The water table as observed in the area is at 380 MSL. In case if the future depth of working goes beyond that depth then there will be likelihood of encountering water table and may require pumping facility. At present that possibility is not foreseen during the pendency of the lease period.

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7.0 DISPOSAL OF WASTE:

a) Nature of Waste:

It is already mentioned that the topography of the area is showing undulating and resembles a hillock and iron ore is mostly outcropping over an entire hill area. During the float ore mining 75% reject material generated during mining, will be used for reclamation purpose. During the float ore mining mine waste will be generated and stacked in S direction in and along the south lease boundary of the mine.

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S No	Years	Generated waste M^3	Generated waste t
1	1st year	28147.50	50665.50
2	2nd year	31556.25	56801.25
3	3rd year	37620.00	67716.00
4	4th Year	40621.87	73119.37
5	5th Year	45510.00	81918.00
		183455.62	**330220.12**

b) Selection of Dumping Site:

South margin of the lease area is proposed for dumping. Shown in the plate no. 7

Maximum height and spread of Dumps:

Western margin of the lease area proposed for dumping is shown in the plate no. 7. The maximum height of the overburden is 3 mt. will be proposed for dumping.

c) Stacking of Sub-Grade Mineral:

There is no sub-grade mineral which will be generated during the mining operation. There is no consideration for stacking of sub-grade minerals.

These chapters are for sub-grade minerals. There are as such no sub-grade mineral in the proposed area therefore no further detailed discussion is required in these chapters.

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8.0 USE OF MINERAL:

The iron ore whatsoever will be mined out will be mined out during the course of mining operation and will be consumed by the captive unit of the applicant. The iron ore will be blasted and fragmented in the form of lumps and sized to less than 100mm by installing crusher near the proposed site. The Average Chemical composition of the iron ore as well as float ore is given below:

Fe	--	60% to 64%
Sio_2	--	2% to 5%
Al_2O_3	-	1% to 5%

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It is observed from the above chemical composition of the iron ore deposit in the proposed area that the ore is suitable for sponge iron grade and no beneficiation or up gradation is required. The chemical analysis report of the collected sample from the CDS GEOTECH laboratory Nagpur is enclosed as an **annexure- 4.**

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9.0 OTHERS

SURFACE TRANSPORT:

Blasted and fragmented iron ore lumps as well as float ore will be sorted and sized to less than 100mm size. Subsequently, it will be loaded to the truck or tippers manually for onward dispatch to the captive unit of the applicant located near Raipur.

a) Site services can be classified in following categories:

(1) Statutory Obligation,

(2) Maintenance Requirement,

(3) Administrative Requirement

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(1) Statutory Requirement:

These facilities will include first aid station, Rest shelter and drinking water facility etc. in the proposed site. The first-aid facilities will be kept at the mine office which will also be served as a first-aid station in the proposed area.

(2) Maintenance Requirement:

The proposed method of mining operation will be manual opencast, the minimum machinery to be deployed are compressor and jack hammer drill which will be used for drilling. For this purpose not much maintenance is required.

(3) Administrative Requirement:

For this a site office is required and will be constructed. The proposed locations are marked on the Plate Nos. 3 & 6.

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b) EMPLOYMENT POTENTIAL:

This will be required after the grant of mining lease in the proposed area. Manpower will be required for statutory as well as for supervisory purposes and also for manual loading.

* Manpower required for the purpose of statutory requirement will be the part of total manpower which includes Mines Manager, Mining Engineer, and Mate etc.

* Apart from the above skilled laborers the unskilled laborers will be required for blasting job and for manual loading to trucks or tippers. Following will be the manpower requirement:

Mines Manager	--	1
Mining Engineer	--	1
Mines Foreman	--	2
Mining Mate	--	2
Supervisor	--	4
Blaster	--	2
Skilled workers	--	20
Semi-skilled workers	--	30
Unskilled workers	--	150

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The above manpower will be considered assuming 300 working days in a year and there will not be any extra manpower required for the development as well as for the other associated job.

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10. MINERAL PROCESING

Iron ore produced from this area will be sized by manually. After sizing Iron Ore will be transported by road to crushing plants situated in sponge Iron plants. One rotary impact crushing plant unit with 1000 tph capacity will be installed later in Plant side. The size of the feed to primary crusher will be maximum 900 mm. The product will have -75mm size and 5-30 mm. The processing described above will be in dry circuit only and there will be no use of water for processing except for suppressing the dust.

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11.0 ENVIRONMENT MANAGEMENT PLAN:

The Opencast mining operation comprises of various activities related to blasting and material handling which are a potential source of environmental pollution. In the following chapters potential effect of the mining activities on environment has been described.

a) Base line Information:

The Iron ore deposit of the proposed area is located as follows:

State & District : Chhattisgarh & Kanker

Tehsil : Bhanupratappur

Village : RASULI

Total Area : 220.00Ha

Ownership It is Govt. of Chhattisgarh forest land.

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- Existing Land Use Pattern:

The proposed area is having undulating topography i.e. hilly in nature and is in the jurisdiction of forest area as well as surrounded by forest land. The area is mostly covered with lateritic soil. The deposit is at the top of the hillock. There is forest growth comprising low plantation density in the area. At present there is no other activity in the area.

Articles	Land use after 5 years in Hect.	Forest Land	Agri. Land	Barren Land
A. Lease Area	220.00	220.00		-
B.Mining & allied				
1.Area under pits	9.784	9.784		---
2.Area for Dumping	-			--
(top soil)	0.21	0.21		
(OB)	0.939	0.939		
3.Area for road	2.91	2.91		-
4.Area for Infrastructure	0.29	0.29		-
5.Plantation	4.00	4.00		
6.Storage of Mineral	0.75	0.75		-
7. Township Area	2.999	2.999	-	-
Total area in Hects.	21.882	21.882		

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- **Rainfall:**

The proposed area is located in a small and backward village of Kanker district and the information for five years is not readily available. However, average rainfall pattern in the area is approx. 1000mm to 1200mm which is spread over from June to October.

- **Water Regime:**

There is no local water regime of any importance which is passing through the proposed area. There is no river in the vicinity of the proposed area. The water table is available within 15m to 20m from the surrounding surface level and the make up is scanty except in rainy season. During summer the water table goes below 20m at places. This is evident from nearby well. In rainy season water table flows within 5m of the surface level.

- **Climate:**

The proposed area is located in a small and backward village of Kanker district and the information is not readily available. However, the climate of the area is of moderate to extreme nature with maximum temperature of 46^0C except in rainy season. Humidity is low and the atmosphere is dry

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- **Flora & Fauna:**

The local varieties of trees like Sal, Babul ,Bija, Mahua and horny bushes shrubs are main vegetation occur around the area. There are plantation and vegetations in the proposed area. The proposed area is surrounded by forest land which is under the control of Forest Department and the entire plantation and other related program is totally controlled by the Forest Department of Chhattisgarh state. Apart from the plantation and vegetation in the forest area vast tracts of the area does not posses any flora of a great importance.

- Fauna:

Natural fauna in the area is field mice, rabbits, foxes. No wild animal is reported in the area. Domestic cattle like buffalo's cows and goats are seen almost all around the area and in the nearby villages.

- **Human Settlement:**

The area is thinly populated and the average density per sq. km is also low. The area is mostly inhibited by agricultural based people. The major source of income is

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through Agriculture. The people mostly belong to a very low income of group and they are engaged either cultivating own land or someone' else land. There is some government sponsored civil work or relief work over there where normally the local people are engaged. The mining activity will certainly provide employment to the local people. Their source of entertainment is mostly local festivals, folk songs and dances. A list of population within 5km surrounding is given below:

Name of village	Direction	Distance	Population
RASULI	South-east	2.0km	89
Kamkasur	NE	1.5km	113
Naghur	S	2.0km	481
Jakke	West	5km	173

- Monuments & Public Buildings:

There are no public buildings, places of worships or monumental construction located in the vicinity of the area.

i) Ambient Noise level:

It has already been mentioned that the method of mining will be of manual nature. No other machinery will be deployed except of compressor & drill machines in the area. The area is presently free from the noise pollution. The noise pollution will not be appreciable as machinery deployed will be working intermittently.

ii) Water Analysis:

There is no water regime which is passing through the proposed area. There are some nallas in the surrounding areas, which are criss-crossing in the area and only active in rainy season. The water will potable in the dug well and bore. There is no beneficiation plant located nearby and hence the chances of contamination of water due to organic chemical do not arise.

iii) Quality of Air:

The proposed site is presently free from any type of air pollution. There will not be any change in future as the mining will be of manual in nature and it will not affect immediately the vicinity of the proposed site.

c) ENVIRONMENT IMPACT ASSESMENT STATEMENT:

Due to mining operation there will be some change in the environment whatsoever may be the small nature of mining activities. The proposed mining activities are of semi merchandised manual nature and proposed area is under the purview of Forest land and having plantation and vegetation in the area. The possible impacts on environment are being discussed in following chapters:

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Land Environment:

(i) Landscape: The proposed area as well as surroundings is having hilly topography. The Iron ore in the proposed area is mostly located at the top of the hillock and slope of the hillock which is showing undulating topography. The iron ore deposit is mostly outcropping and at some places in lower ranges it is covered with lateritic soil. Due to mining activity in the area, there will be removal of lateritic soil whatsoever to the extent of small in quantity, the Iron ore will be mined out and area will be degraded. The overburden whatsoever generated will be dumped properly in the lease boundaries as well as in the non-mineralised zone and it will be leveled so that the dump height remains uniform on the all sides. The area comes under forest so plantation program will be carried out in a planned manner by Forest Department and the applicant will bear the cost of the same. Though there will be some change in the land use pattern but it will give better view.

(ii) Aesthetic Environment: In the proposed area it is proposed to dump the overburden in a systematic manner along the boundaries as well as in the non-mineralized zone where space is earmarked for this purpose. Any unsystematic dumping as well as opening of pits will be avoided, so that mining activity does not disturb the aesthetic sense of environment.

(iii) Soil and Land Use Pattern: The proposed area is under the purview of Forest land with undulating hilly topography and with plantation and vegetation. The iron ore in the

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proposed area is mostly outcropping and float ore having thickness of around 2.5 m. There will be change in the land use pattern after the mining activity is carried out in the area. Due to mining activity around 2091m^3 of overburden/waste will be generated. Following will be the land use pattern after 5 years and at the end of lease period as envisage presently.

	At the end of Fifth Year (m^2)	At the end of lease Period (m^2)
a) Area under Pit	97843	215915
b) Area for Dumping and plantations	9390	60650
c) Area for Road, Building etc.	3150	5000
Total	110383	281565

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(iv)Agriculture: The proposed area is under the purview of Forest land and covered with plantation and vegetation. The vegetation and plantation programme in the area is presently controlled by the Forest Department and there will be no change in status in future. At present there are no agricultural activities in the proposed area so there will not be any impact on this due to future mining activity.

(v) Forest: The proposed area comes under the purview of Forest and all of its activities including plantation and vegetation is presently controlled by Forest Department of Chhattisgarh. There will not be any change in future of the present status.

(vi)Vegetation: The proposed area comes under the purview of Forest department of Govt. of Chhattisgarh. The vegetation is seen in the area at present which might be disturbed due to the future mining activity in the area. But due to future mining activities there will be generation of overburden to the small extent which will be properly stacked in the boundaries in a systematic fashion. The future vegetation programme if any will be organized by the Forest department of Govt. of Chhattisgarh. It will give greenery pasture to the environment and will also have retention effect on the soil dump.

(vii) Monuments: At present there are no public buildings places or monuments of any importance located nearby which will be affected due to mining in future.

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Water Environment:

(i) Surface Water: At present there is no water source which is passing through the proposed area and nearby surrounding. There will not be any accumulation of surface water during rainy season as the proposed area is having the hilly topography. The rain water will be drained out due to gravity of drainage through the relief slopes of the area. Apart from this there will not be any other source for surface water in the area.

(ii) Ground Water: It is already mentioned that the ground water is available within 15m to 20m of the surrounding surface level and evident in nearby well, bore well etc. There will be no accumulation of water due to rains as the topography of the area is hilly nature and water will be drained out automatically.

(iii) Water Quality: The ground water available in the well, bore will etc. is of potable nature and no adverse effect has been noticed in the past due to human consumption and in future also there will not be any change in quality due to future mining activity.

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Air Environment:

(i) Noise: The method of mining will be of manual nature. Drilling will be carried out by compressed air operated jack hammer. The noise will be generated during drilling and blasting. There will not be deployment of any heavy machines in the area for mining operation as the mining will be in a very small scale. There will not be any appreciable impact on noise pollution.

(ii) Air: The proposed method of mining will be of manual nature and in a small scale. There will not be any deployment of heavy machinery of heavy blasting which will create dust or air pollution. Drilling will be carried out by jack hammer and it is necessary wet drilling will be recommended.

Socio-economic Environment:

(i) Social & demographic Profile: The proposed area is coming under the purviews of forest land and presently there is no activity in the area. But due to commencement of mining activity in the area there will be a generation of employment to the local people and their earning will also be increased. Due to this reason there will be a remarkable improvement in the living style of the people employed in the area.

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(ii) Occupational Health and Safety: The method of mining will be carried out manually in a small scale. There will not be deployment of heavy machines in the area for carrying out mining operation which will create noise pollution or any other Operational hazards due to the presence of machines. Precaution is required to be observed during drilling with jack hammer against dust and handling of explosive material. Apart from these no other factors are envisaged during future mining operation.

(iii) Human Settlement: In this region there will be mining activities. Though there is local populace available but due to increase in demand or increase in mining activity, there is a possibility of migration of labour from the surrounding areas. For this reason there will be increase in the human settlement in the area. Due to increased revenue earnings in the area there will be development of the infrastructural facilities such as transport, road; housing, schools as well as hospitals.

(iv) Recreational Facility: At present local festivals is the main source of recreation to the local populace. Due to improved earning there will be improvement in the entertainment facilities and marketing facilities. Temporary picture halls, video parlors may be developed for entertainments which indicate the improvement in their social status.

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- MANAGEMENT PLAN:

EMP has been made considering the implementation and monitoring the protection measures during and after the mining operation.

- Storage & Preservation of Top Soil:

It is already mentioned that the iron ore is outcropping in the proposed area. The mineralization is localized in the area. Rest of the area is partially mineralized and outcropping almost in the several part of the Hill area. Top soil cover will be removed due to mining operation stacked properly along the lease boundary and will further be used for Afforestation purpose. The quantity of alluvial soil will not be generated during the first five year of mining operation because the mining will be carried out on the exposed Iron ore deposit. The gravel mixed soil will be generated from flat ore mining after separation of Iron ore from the Float ore. The other rock particles are associated with this soil.

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- Proposal for Reclamation of land affected by mining activity:

Reclamation of mined out area is the most important activity of EMP. As a result of mining operation the original ground profile will be altered. The proposed area is covered with alluvial soil as overburden and the topography of the area is flat. Reclamation activity will be commenced only after optimum thickness of the deposit has been excavated. Prior to the whatsoever alluvial soil will be generated will be stacked along the lease boundaries so that it can be used for reclamation purpose if required; otherwise it will be used for Afforestation purpose. The thickness of alluvial soil is less compared to the thickness of Iron ore in the area. Due to this reason it may not be possible to reclaim the area fully by alluvial soil but it can be done partially, if allowed to do so the Reclamation operation will commence after attaining the optimum depth in phased pattern after getting proper clearance from the competent authority of IBM.

- Programme of Afforestation:

The proposed area is mostly covered with alluvial soil and there is no tree in the proposed area. It is proposed to have plantation surrounding the lease boundaries in phased pattern to minimize land/dump erosion. It is proposed to have plantation at the rate of 1000 saplings per year. Saplings will be planted in the following manner:

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year	Quantity	Area Proposed	rate of survival
1st	1000nos.	1500m^2	80%
2nd	**1000**nos.	1500m^2	80%
3rd	**1000**nos.	1500m^2	80%
4th	1000nos.	1500m^2	80%
5th	**1000**nos.	1500m^2	80%

- Dust suppression:

The method of drilling will be through compressed air operated jack hammer and dia. of the hole will be 34mm, the depth of hole will be varying from 1.5m to1.6m and there will not much dust formation.

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- Measures to minimize vibration due to blasting:

The method of mining operation will be of manual nature and only drilling will carry out by jackhammer and blasting by gelatin. The total numbers of holes blasted at any particular time will not be more than 15 and as such there will not be much appreciable vibration due to this blasting operation.

- Stabilization and vegetation of dumps:

The proposed area is small and the dumps will be stabilized by plantation on it to avoid spillage in surrounding areas.

- Treatment and Disposal water from mine and Beneficiation:

There will not be any beneficiation plant located in the area as such no water will be discharged. The water accumulated in the pit during rainy season will be pumped out and discharged into natural drainage system. But this will not be creating any adverse impact on the surrounding.

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- Measures for minimizing adverse effects of Water Regime:

There is no adverse effect due to mining operation.

- Afforestation of Tailing Dumps:

Afforestation of tailing pond does not arise as there is no beneficiation plant in the proposed site.

- Preparation of dumping Ground for stacking of Toxic Mineral Substance:

There is no plan for dumping toxic mineral substances, as the same is not generated in course of mining operation.

- Socio-Economic benefits arising out of mining:

Due to mining activity in the area there will be generation of employment to the local people and their earning will also be increased. Due to this reason there will be remarkable improvement in the living condition of the people employed in the area. Due to increased revenue earnings in the area there will be development of infrastructural facilities such as transport, road housing, schools as well as hospitals, entertainment and marketing facilities.

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12 PROGRESSIVE MINE CLOSURE PLAN

1.0 INTRODUCTION:

(a) Name of Lessee:

M/s NAVBHARAT EXPLOSIVE LTD.

DISTRICT – RAIPUR (CG)

Status of the applicant:

Discussed in the Mining plan.

(b) The location and extent of the lease area, the type of the lease area (Forest, Non-forest etc)

Discussed in Mining plan.

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(c) Present Land Use Pattern:

Discussed in the Mining plan.

(d) The method of Mining & Mineral Processing Operations should be given:

Discussed in the Mining plan.

1.1Reasons of Closure:

The reasons of closure of mining operations in relation to exhaustion of minerals, lack of demand, uneconomic operations, natural calamity, directives from statutory organizations or court etc. should be specified:

The question of this does not arise as the mining lease is yet to be granted and mining of Iron ore will continue beyond the period of this Mining Plan proposal site after grant of mining lease and till the exhaustion of deposit.

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The mining operation will commence after grant of mining lease in the area. At this stage it is premature to consider closure operation as it can be envisaged after the exhaustion of the mineral deposit which is not foreseen during the plan period or in near future.

At present scenario it is also difficult to forecast closure operations due to uneconomic operations, natural calamity, directives from statutory organizations, court etc.

1.2 Statutory Obligation:

The legal obligations, if any which the Lessee is bound to implement like special condition imposed while execution of Lease Deed; approval of Mining Plan; directives issued by the Indian Bureau of Mines; conditions imposed by the Ministry of Environment & Forest; State or Central Pollution Control Board or by any other organization describing the nature of conditions and compliance position thereof should be indicated here (the copies of relevant documents may be attached as annexure).

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The mining lease is yet to be granted in this area and mining operation will commence only after grant of mining lease. At this stage it is not possible to consider the above conditions. In case of any such eventuality in future the applicant undertakes to abide & implement any special conditions imposed by various authorities and also to complete formalities under provisions of the Mines & Minerals (Development & Regulation) Act, 1957 Mineral Concession Rule, 1960 and Mineral Conservation & Development Rules, 1988 as amended from time to time.

1.3 Closure Plan Preparation:

The name and address of the Applicant and Recognized Qualified Person who prepared the Closure Plan and the name of the executing agency should be furnished. A copy of the Resolution of the Board Directors or any other appropriate administrative authority as the case may be on the decision of Closure of mine should be submitted:

Name & Address of the Lessee:

M/s NAVBHARAT FUSE CO.LTD.

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Name and Address of the RQP:

SIDDHARTH GEO CONSULTANT

RQP.

Arvind Kumar Singh
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621/3 Ramkund, Samta colony
Behind Life Worth hospital
Raipur (C.G.) 492001
Phone: - 0771- 2412638 (0)
0771-2253219 (R)
09826I- 42290 (Mob.)

2.0 MINE DESCRIPTION:

2.1 Geology : Briefly describe the topography and general geology indicating the rock types available, the chemical constituents of the rocks/minerals including toxic elements if any, at the mine site.

Discussed in the Mining plan.

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2.2 RESERVE

Scheme approved along with the balance mineral reserves at the proposed mine closure including its quality available (for final mine closure plan only):

Methodology of Reserve Estimation:

Discussed in the Mining plan.

2.3 Mining Method: Describe in brief the mining method followed to win the mineral, extent of mechanization, mining machinery deployed, production level etc.

Discussed in the Mining plan.

2.4 Mineral Beneficiation: Describe in brief the mineral beneficiation practice if any indicating the process description in short. Indicate discharge details of any tailings/middling and their disposal/utilization practice followed:

No beneficiation is proposed to be carried out in the area.

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3.0 REVIEW OF IMPLEMENTATION OF MINING PLAN/SCHEME OF MINING INCLUDING FIVE YEARS PROGRESSIVE MINE CLOSURE PLAN UPTO FINAL CLOSURE OF MINE.

Indicate in detail the various proposals committed with special emphasis on the proposals for protection of environment in the approved Mining Plan/Scheme of Mining including five years Progressive Closure Plan up to the closure of mine Vis-à-vis their status of implementation. Highlight the areas, which might have contaminated by mining activities and type of contaminated by mining activities and type of contaminants that might be found there. The reasons for deviation from the proposals if any with corrective measures taken should also be given:

The mining lease is yet to be granted in the area and mining operation will commence after grant of mining lease Therefore, question of reviewing preceding approved Mining Plan does not arise.

4.0 PROGRESSIVE MINE CLOSURE PLAN:

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4.1 Mined out Land: Describe the proposals to be implemented for reclamation and rehabilitation of mined out land including the manner in which the actual site of the Pit will be restored for future use. The proposal should be supported with relevant plans and sections depicting the method of land restored/reclamation/rehabilitation.

(i) Proposals for Reclamation & Rehabilitation

Discussed in the Mining plan.

(ii) **Future Use:** It is already mentioned that there is no consideration of reclamation & rehabilitation proposal in next five years of operation so there will be no consideration for its future use.

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4.2 Water Quality Management: Describe in detail the existing surface and ground water bodies available in the Lease areas and the measures to be taken for protection of the same including control of erosion, sedimentation, siltation, water treatment, diversion of water courses, if any, measures for protection of contamination of ground water from leaching etc. Quantity and Quality of surface water bodies should be indicated and corrective measures proposed to meet the water quality conforming the permissible limits should also be described. Report of the hydrological study carried out in the area may also be submitted. The water balance chart should be given. If there is potential of Acid Mine Drainage the treatment method should be given:

The surface water is in the form of seasonal rain fall and the ground water bodies encountered below 20m depth from the surface level. The Rasuli Village is too small. So, far no report on Hydrological studies has been carried out in the area under question. There is no potential of Acid Mine Drainage.

Surface rain water will be examined for its physio-chemical & bacteria-logical parameters in order to assess the effect of mining and related activities on ambient quality of water.

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Water will be analyzed as per procedures **laid down in the standard Methods for Examination of Water** and the results will be communicated to Indian Bureau of Mines, Nagpur. There will not be any seepage of underground water into the working pit.

During the course of proposed mining operation no diversion of watercourse is considered, as it doesn't exist.

4.3 Air Quality Management: Describe the existing air quality status. The corrective measures to be taken for prevention of pollution of air should be described:

The present air quality in the area is free from any pollutants what so ever as there is no mining or any other industrial activity in or around the area under question. The proposed mining operations required drilling and blasting which will be in small scale and as such pollution of air does not arise. However, considering the Production and nature of proposed mining operations SPM level will be within permissible limit.

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4.4 Waste Management:

Describe the type, Quality and quantity of overburden, mineral reject etc. Available and their disposal practice. If no utilization of waste material is proposed, the manner in which the waste material will be stabilized should be described. The protective measures to be taken for prevention of siltation, erosion and dust generation form these waste material should also be described. If toxic and hazardous elements present in the waste material the protective measures to be taken for prevention of their disposal in the air environment, leaching in the surface and ground water etc. should be described:

(i) Type of Overburden & Mineral Rejects: The Iron ore deposit is mostly outcropping and covered with side burden. There is as such no waste except side burden in the area. There will be as such no generation of rejects during next five years of mining operation in the area. The applicant has no proposal for having processing unit in the proposed area which will generate contaminated substance.

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(ii) Protection Measures: It is already mentioned that there will not be generation of waste material which is required to be treated properly or stored securely to prevent its spillage to the surrounding. At present no such situation is envisaged.

4.5 Top soil Management: The top soil available at the site and its utilization should be described:

It is already mentioned that Iron ore is outcropping and mostly covered with side burden which will be stacked in the lease boundaries and location of the same is marked in **Development & Production Plan and Land Use Plan for PMCP.** The deposit is covered with side burden and it is required to be removed during the course of mining operation. During next five years of mining operation there will be no generation of overburden. There will be generation of side burden at a later stage which will be stacked in the lease boundary and the location of the same is shown in Plate Nos. 7 . The dumps will be stabilized with plantation so that there will be no spillage in the surroundings. This will be used for reclamation of land if required or used for Afforestation purpose later.

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4.6 Tailing Dam Management: The steps to be taken for protection and stability of tailing dam, stabilization, periodic desilting measures to prevent water pollution from tailings etc. for arrangement for surplus water overflow along with detail design, structural stability studies, then embankment seepage less into the receiving environment and ground water contaminant if any should be described:

The mining operation will be of manual opencast mining and in small scale. There is no proposal for putting up any processing unit in the proposed area which will generate tailings. So, there is no consideration of tailing dump management.

4.7 Infrastructure: The existing infrastructural facilities available such as roads, aerial ropeways, power lines, buildings & structures, water treatment plant, transport, water supply sources in the area etc. And their future utilization should be evaluated on case-to-case basic, if retained, the measured to be taken for their physical stability and maintenance should be described. If decommissioning proposed, dismantling and disposal of building structures, transmission line water line, gas pipeline. Water works, sewer line, telephone cables, underground tanks, transportation infrastructure like roads, rail, bridges, culverts, etc. electrical equipments and infrastructure like electrical cables, transformers to be described in connection with restoring land for further use:

The method of mining operation will be of manual opencast with drilling and blasting. There will not be any crusher unit for sizing purpose in the area. The blasted material will be taken by trucks which will be mostly contractual. Besides, there will be small scale mining and during next five years there is no proposal for initiating closure operation. There will not be much infrastructure in the area which is required to be attended. The proposed area presently does not have any public roads, railway lines, telephone lines, public buildings etc.

4.8 Disposal of Mining Machinery: The decommissioning of mining machineries and their possible post mining utilization, if any, to be described:

The mining operation will commence after grant of mining lease in the area. It is mentioned in the Mining Plan that mining operation will be in small scale and excavation

will be made by compressed air operated jack hammer drilling and blasting and loading in trucks. The drilling will be departmental. There may be small tools and tackles for day to day operation. There is no proposal of disposing any mining machinery within next five years of mining operation. There will not be such consideration for disposal of machineries.

4.9 Safety & Security: Explain the safety measures implemented to prevent access to surface openings, excavations etc. and arrangement proposed during the mine abandonment plan and up to the site being opened for general public should be described:

The applicant will follow prevailing Mines Act, Metalliferous Rules & Regulations etc. as well as other directions given to him time to time by Directorate General of Mines Safety on safety measures. The applicant will securely fence the excavated area by barbed wire of 1.5m height to prevent the free access and unauthorized people to the mining area. The applicant will appoint security persons to ensure to prevent unauthorized entry on weekly off-days, festival days and during the time of discontinuance of mining operation.

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4.10 disaster Management & Risk Assessment: This should deal with action plan for high risk accidents like landslide, subsidence, flood, inundation in underground mines, fire, seismic activities, tailing dam failure etc. and emergency plan proposed for quick evacuation, ameliorative measures to be taken etc. the capability of Lessee to meet such eventualities and the assistance to be required from the local authority should be described:

In the proposed area mining operation will be in small scale and of manual nature. There is no nallas, river or water bodies passing through or existing within or near the vicinity of the proposed area which can cause inundation or other water borne disaster in the area. The area is free from any seismic activity and no such record of seismic activities is available in the area. The mining operation will not go beyond 40.00 m depth which can cause land slide in the area. Apart fro the above no other disasters are foreseen at present in the area.

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4.11 Care and Maintenance during temporary discontinuance: For every five yearly review (as given in the mining scheme) and emergency plan for the situation of temporary discontinuance or incomplete program due to court or due to statutory requirements or any other unforeseen circumstances, should include a plan indicating measures of care, maintenance and monitoring of status of unplanned discontinued mining operations expected to re-open in near future. This should detail item wise status monitoring and maintenance with periodicity and objective:

The mining operation will continue throughout the year except in rainy season and small period during the time of local festivals. During that time as already mentioned that security staff will maintain vigil to the area and prevent cattle's and unauthorized persons entering in the area.

An emergency plan for the situation of temporary discontinuance or incomplete program due to court order or due to statutory requirements will be drawn up & execute depending upon the situation. Since the mining is not hazardous and on small scale, the situation for emergency plan will be evinced.

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5.0 ECONOMIC REPERCUSSION OF CLOSURE OF MINE AND MANPOWER RETRENCHMENT:

Manpower retrenchment, compensation to be given, socio-economic repercussions and remedial measures consequent to the closure of mines should be described, specifically stating the following:

Manpower retrenchment is an issue that will come up at the end of lease period or at the time of exhaustion of Iron ore deposit in the lease area.

5.1 Number of local residents employed in the mine, status of the continuation family occupation and scope of joining the occupation back:

The number of local residents employed in the mines will be up to 200. Already these people in their own traditional & family occupations mostly agriculture, sundry jobs, provide temporary labor etc. These people will go back to their respective professions/employments.

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5.2 Compensation given or to be given to employees connecting with sustenance of himself and their family members:

The retrenchment, compensations to the workers as and when required, will be done as per the Central Labour Legislations applicable to Metalliferrous Mines.

5.3 Satellite occupations connected to the mining industry – number of persons engaged therein – continuance of such business after mine closes:

This will be new mine. There are other mines also operating in the area. The workers mostly work in seasonal agriculture and hence satellite occupations connected to the mining industry are not considered. Hence, after the mine closes there will not be any adverse impact.

5.4 Continued engagement of employees in the rehabilitated status of mining lease area and any other remnant activities:

There is very little chance of Mining Lease area getting rehabilitated as the land is government of Chhattisgarh Forest land.

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5.5 Envisaged repercussion on the expectation of the society around due to closure of mine:

The employment potential of the mine is small; hence it will have no repercussion on the expectation or the society around due to closure of mine.

6.0 TIME SCHEDULING OF ABANDONMENT:

The details of time schedule of all abandonment operations as proposed in Para 4 should be described here. The manpower and other resources required for completion of proposed job should be described. The schedule of such operations should also be supplemented by PERT (Programme Evaluation and Review Technique), Bar Chart etc:

Schedule of Reclamation of the mined out area will be done only during the final mine closure plan by the storage of water tank for irrigation / fishery purpose & Plantation.

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Management of dump is already discussed in the mining plan. The soil dump mainly generated during the planned period will be stacked along the lease boundary i.e.7.5 mt. Height of the dump will be maintained 3.00 mt. with the shape of flat top pyramid.

The stability of the aforesaid dump will be protected by pitching, terracing, coir matting and construction of garland drain etc. and the dump will be used for plantation purpose. The location of dump is shown in the Five year development and production plan.

7.0ABANDONMENT COST:

Cost to be estimated based on the activities required for implementing the protective and rehabilitation measures including their maintenance and monitoring programme:

it is very difficult to estimate the abandonment cost at this stage but the expenditure in other head for environment and plantation are given in the following Table-

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YEARLY- PROPOSAL FOR ITEM NO. 6 & 7 OF PMCP

ITEMS	DETAILS	AREA (HECT.)	QUANTITY	EXPENDITURE (Rs.)	REMARKS
		PROPOSED	PROPOSED	PROPOSED	
(A) RECLAMATION & REHABILITATION OF MINED OUT LAND/AREA	(i) Backfilling	Nil	Nil	Nil	
	(ii) A forestation on the backfilled area	Nil	Nil	Nil	
	(iii) Others (please specify) Eg. A forestation on exhausted benches.	Nil	Nil	Nil	
	(iv) Pisciculture	Nil	Nil	Nil	
	(v)Converting into water reservoir.	Nil	Nil	Nil	
	(vi) Picnic Spot	Nil	Nil	Nil	
(B) STABILIZATION & REHABILITATION OF DUMPS (with lease)	(i) Terracing	0.21	-	5000	
	(ii) Pitching	0.21	-	5000	
	(iii) Construction of Parapet Walls/Retaining wall at toe of	Nil	Nil	Nil	
	(iv) Construction of Check Dams along slope of valleys etc.	Nil	Nil	Nil	
	(v) Construction of Settling Ponds (Garland drain etc.)	Nil	Nil	Nil	
	(vi) Desilting of settling ponds, channels.	Nil	Nil	Nil	
	(vii) Afforestation on Dumps	1.5	1000	97,000	
	(viii) Other (please specify)	Nil	Nil	Nil	
(C) REHABILITA-TION OF BARREND AREA WITHIN LEASE	(i) Afforestation (Green Belt Building)	Nil	Nil	Nil	
	(ii) Other (please specify)	Nil	Nil	अनुमोदित APPROVED	
(D) ENVIRONMENTAL MONITORING (Core zone & Buffer Zone separately)	(i) Ambient Air Quality	4.168 Hc.	32 Samp.	80,000/y	
	(ii) Water Quality	4.168 Hc.	8 Samp.	22,400/y	
	(iii)Noise Level Survey	4.168 Hc.	-	5000/y	
	(iv) Ground Vibration	4.168 Hc.	-	15000/y	
	(v) Others (please specify) Soil	4.168 Hc.	-	6000/y	
	TOTAL			235400	

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8.0 FINANCIAL ASSURANCE:

The financial Assurance can be submitted in different forms as stated in Rule 23(F)(2) of Mineral Conservation & Development (Amendment) Rules, 2003. In the Mine Closure Plan, the manner in which Financial Assurance has been submitted and its particulars have to indicate:

The financial Assurance has been calculated as per the following table, which is self-explanatory. The detail of the position at the end of five years can be referred to Development & Production Plan and Land Use Plan for PMCP (Plate No. 7). It is observed from the PMCP and Land Use Pattern that total area will be affected around 8.452 Ha. So, **Amount of financial Assurance = 21.522(or 22.00 Hect.) x Rs.25,000 = Rs. 5,50,000/-.** The Financial Assurance is calculated for Rs. **5,50,000**/- as per table mentioned in chapter 10. The applicant will provide the **Financial Assurance** in the form of Bank Guarantee of Rs. **5,50,000**/- only as minimum required in favor of Regional controller of Mines, Indian Bureau of Mines, Nagpur during the time of agreement after grant of mining lease.

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9.0 PLANS, SECTIONS ETC.

The Chapters 1,2,3,4 should be supported with Plans & Sections. The Closure Plan may also be submitted depicting photographs, satellite images on compact disc etc. wherever possible.

Chapter 1.2.3: Plate No. 6 is enclosed

Chapter 4: Land Use Plan for PMCP, Plate No. --- is enclosed.

Arvind Kumar Singh
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10.0 DETAILS OF MINING LEASE AREA PUT TO USE

SN	Head	Area put on use at Start of mining plan	Additional equirement during plan period	Total e = c+d	Area considered as fully Reclaimed & Rehabilitation	Net area consider for calculation g = e -f
a	b	c	d	e	f	g
1.	Area to be excavated	0.00 Hect.	9.784 Hect.	9.784 Hect.	7.060	2.724 Hect.
2.	Storage for top soil	Nil	0.21Hect	0.21 Hect.	Nil	0.21 Hect.
3.	Overburden/ Dump	Nil	0.939	0.939		0.939
4.	Mineral Storage	Nil	0.75	0.75		0.75
5.	Infrastructure (workshop, administrative building, crushing plant)	0.05 Hect.	0.24	0.29Hect	Nil	0.29 Hect
6	Roads	0.31 Hect	2.60Hect	2.91Hect		2.91Hect
7	Railways	Nil	Nil	Nil		Nil
8	Green Belt	Nil	4.00Hect	4.00Hect		4.00Hect
9.	Tailing Pond	Nil	Nil	Nil		Nil
10	Effluent Treatment Plant	Nil	Nil	Nil		Nil
11	Mineral Separation Plant	Nil	Nil	Nil		Nil
12	Township area	Nil	2.999	2.999		2.999
13	Other to specified	Nil	Nil	Nil	Nil	Nil
	Total area	0.36Hect	21.522Hect	21.882Hect	7.060Hect	14.822 Hect.

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Financial Assurance has been calculated as per the above table. It is observed from the PMCP and Land Use pattern that total area will be affected around 21.882 Ha. But after reclamation of 7.060 hect., total 14.822 hect area will be considered for financial assurance Therefore the Amount of Financial Assurance for the "A" Category mines = 14.822 x Rs 25,000 = Rs. 3,37,550/-.The applicant will be submitted Financial Assurance in the form of Bank Guarantee of Rs. 3,37,550 (Three lakh thirty seven thousand five hundred fifty only) in the form of Bank Guarantee.

22/12/11

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क्षेत्रिय खान नियंत्रक
Regional Controller of Mines
भारतीय खान ब्युरो नागपुर
Indian Bureau of Mines, Nagpur

Prepared by
SIDDHARTH GEO CONSULTANTS
Arvind Singh, RQP/NGP/225/2000/A

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Arvind Kumar Singh
RQP/NGP/225/2000/A

ANNEXURE-1

Navbharat Fuse Co. Ltd.

Corporate Office Navbharat Udyog Bhawan, Ring Road No.-1
P. O. Ravigram, Raipur - 492 006 (C. G.) Phone (0771) 4217200 Fax : (0771) 4217201
E-mail : info@webmail navbharat.org / corporate@webmail.navbharat.org

CONSENT LETTER FROM APPLICANT

The mining Plan in respect of the village Rasuli Iron Ore Deposit in area 220.00 Hect. , District- Raipur, state Chhattisgarh has been prepared by Shri Arvind Kumar Singh, the RQP of Siddharth Geo Consulatnts (Registration No. RQP/NGP/225/2000/A).

I request regional Controler of Mines Nagpur to make further correspondence regarding modification of the Mining Plan with the said Recognized person on his following address : -

Shri Arvind Singh Plot, No. 621/3, 1st floor
Ramkund (Samta Colony)
Behind Lifeworth Hospital
Raipur (C.G.) 492001

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I here by undertake that all the modification so made in the mining plan by the recognized person be deemed to have made with my knowladge and consent and shall be acceptable to me and binding on me in all respects. I authorized to Mr. Arvind Kumar Singh to receive the approved mining plan on behalf of me.

Place: Raipur

Date:

Signature of the Applicant in full

Vishal Singh

Arvind Kumar Singh
RQP/NGP/225/2000/A

ANNEXURE-2

Navbharat Fuse Co. Ltd.

Corporate Office : Navbharat Udyog Bhawan, Ring Road No.-1
P. O. Ravigram, Raipur - 492 006 (C. G.) Phone : (0771) 4217200 Fax : (0771) 4217201
E-mail : info@webmail navbharat.org / corporate@webmail navbharat.org

ISO 9001 REGISTERED FIRM
D.N.V.B.V. NETHERLANDS

CERTIFICATE

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"The Progressive Mine Closure Plan under Mineral Conservation and Development Rule 1988 In respect of Rasuli Iron Ore deposit (Area=220.00 Hect.), District – Raipur, State of Chhattisgarh, had been prepared in full consultation with me and complies all statutory rules, regulations and also orders made by the Central or State Government, statutory organizations etc. have been taken into consideration. I agree to implement all the measures proposed in this Progressive Mine Closure Plan in a time bound manner".

क्षेत्रिय खान नियंत्रक
Regional Controller of Mines
भारतीय खान ब्युरो नागपुर
Indian Bureau of Mines, Nagpur

Applicant

Vishal Singh

GOVT. OF INDIA-INDIAN BUREAU OF MINES

Arvind Kumar Singh
RQP/NGP/225/2000/A

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ANNEXURE-3

Navbharat Fuse Co. Ltd.

Corporate Office Navbharat Udyog Bhawan Ring Road No.-1
P.O. Ravigram, Raipur - 492 006 (C.G.) Phone (0771) 4217200 Fax : (0771) 4217201
E-mail : info@webmail navbharat.org / corporate@webmail navbharat.org

CERTIFICATE

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The provisions of Mines Act. Rules and Regulations made there under have been observed in Plan of Mining along with Progressive Mine Closure Plan of Rasuli Iron Ore Deposit for an Area = 220.00 Hect. bilonging to Navbharat Fuse Company Ltd. in Raipur district of Chhattisgarh State and wherever specific permissions are required, the applicant will approach the DGMS, Further, Standards prescribed by DGMS in respect of Miners Health will be strictly implemented.

Applicant

Vishal Singh

Arvind Kumar Singh
RQP/NGP/225/2000/A

ANNEXURE-4

CERTIFICATE FROM RQP

I, Arvind Kumar Singh, duly recognized qualified person to prepare plan of mining along with Progressive Mine Closure Plan have prepared the Plan of Mining along with Progressive Mine Closure Plan of Rasuli Iron Ore Deposit (Area- 220.00 Hect.),Tehsil – Bhanupratappur, District – Kanker, Chhattisgarh and submitted under Rule 22(4) MCR 1960 & 23 of MCDR, 1988. Mine Closure Plan have been prepared under our guidance and duly verified by me.

The provisions of MCDR, 1988 and MCR, 1960 have been observed in the Plan of Mining along with Progressive Mine Closure Plan.

The provisions of Mines Act. Rules and Regulations made there under have been observed in the Plan of Mining along with Progressive Mine Closure Plan and also the precautions outlined by the director General of Mines Safety.

The information provided in the Plan of Mining along with Progressive Mine Closure Plan is correct and accurate to the best of my knowledge and belief.

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Arvind Kumar Singh
(RQP/NGP/225/2000/A)

Arvind Kumar Singh
RQP/NGP/225/2000/A

ANNEXURE-5

CERTIFICATE OF RECOGNITION AS QUALIFIED PERSON TO PREPARE MINING PLANS

(Under Rule 22C of Mineral Concession Rules, 1960)

Shri ARVIND KUMAR SINGH *resident*

of MOON WALK KA MAKAN, SHANTINAGAR, JAGDALPUR(M.P.), *son*

of LATE SHRI [illegible] *having given satisfactory*

evidence of his qualifications and experience is hereby granted recognition under Rule 22C of the Mineral Concession Rules, 1960 as a Qualified Person to prepare Mining Plans.

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His registration number is RQP/NGP/225/2000/A

This recognition is valid for a period of two years

ending 02/02/2002

3/2/2000

(S.H. Pimple)
Regional Controller of Mines
Indian Bureau of Mines
Nagpur.

Place : Nagpur
Date : 03/02/2000

2 फरवरी 2012 तक नवीनी दी
Renewed up to 2nd February 2012

क्षेत्रीय खान नियंत्रक (क्षे. नि.)
Regional Controller of Mines (N.R.)
भारतीय खान ब्यूरो, नागपुर
Indian Bureau Of Mines, Nagpur

Arvind Kumar Singh
RQP/NGP/225/2000/A

ANNEXURE- 6

छत्तीसगढ़ शासन
खनिज संसाधन विभाग
मंत्रालय,
दाऊ कल्याण सिंह भवन, रायपुर

पत्र कमांक एफ 3-44/2007/12 रायपुर, दिनांक जून, 2009

प्रति,

मेसर्स नवभारत फेरो अलॉयज लिमिटेड,
[illegible]
[illegible]

विषय– जिला उत्तर बस्तर कांकेर के तहसील भानुप्रतापपुर स्थित वनमंडल पूर्व भानुप्रतापपुर वनरेंज दुर्गकोंदल के वन खंड कमांक 338 (615) एवं 339 (616) के रकबा 220.00 हेक्टर क्षेत्र पर खनिज लौह अयस्क की खनिपट्टा स्वीकृति बाबत।

जिला उत्तर बस्तर कांकेर के तहसील भानुप्रतापपुर स्थित वनमंडल पूर्व भानुप्रतापपुर वनरेंज दुर्गकोंदल के वन खंड कमांक 338 (615) एवं 339 (616) के रकबा 220.00 हेक्टर क्षेत्र पर खनिज लौह अयस्क की खनिपट्टा स्वीकृति हेतु 20 वर्ष की अवधि के लिए हेतु भारत सरकार, खान मंत्रालय के, पत्र कमांक 5/14/2008 एम.4 दिनांक 14.09.2008 द्वारा खान एवं खनिज (विकास एवं विनियमन) अधिनियम, 1957 की धारा 5 (1) के तहत पूर्वानुमोदन दिया गया है।

2/ आवेदित क्षेत्र जिसमें अक्षांश एवं देशांश एवं वन भूमि का विवरण निम्नानुसार है–

क्र0	वन मंडल एवं वन परिक्षेत्र का नाम	कंपार्टमेंट कमांक	टोपोशीट कमांक 64 डी/15 को – [illegible] आर्डीनेट्स			रकबा (हेक्टर में)
			पाइंट	अक्षांश	देशांश	
1	वनमंडल पूर्व भानुप्रतापपुर वनरेंज दुर्गकोंदल	338(615) – 126.00 एवं 339 (616)– 94.00	N 1 O C D	20°26' 27.8" 20°25' 50.8" 20°26' 12" 20°25' 26" 20°25' 14"	80°56' 45" 80°56' 49" 80°55' 57" 80°55' 15.6" 80°55' 37.8"	220.00 हेक्टर (को–आर्डिनेट्स के मध्य आने वाले क्षेत्र) (मानचित्र संलग्न)

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3/ उपर्युक्त उपलब्ध क्षेत्र वन भूमि होने से उक्त पर खनिपट्टा स्वीकृत किये जाने के पूर्व भारत सरकार, पर्यावरण एवं वन मंत्रालय से वन संरक्षण अधिनियम, 1980 के तहत अपेक्षित अनुमति प्राप्त की जानी होगी। जिसके लिए भारतीय खान ब्यूरो से अनुमोदित माईनिंग प्लान भी संलग्न किया जाना होगा।

4/ आपको निम्नलिखित शर्तों के अधीन भारतीय खान ब्यूरो से माईनिंग प्लान अनुमोदित कराने तथा वन संरक्षण अधिनियम, 1980 से वांछित आवश्यक अनुमति प्राप्त कर [illegible] की अनुमति प्रदान की जाती है :–

Arvind Kumar Singh
RQP/NGP/225/2000/A

4.1 वन संरक्षण अधिनियम, 1980 के तहत कार्यनिम प्लान तैयार कराये जाने के लिए जारी की जा रही इस अनुमति से आपको उपर्युक्त आवेदित क्षेत्र पर प्रवेश करने या खनन कार्य करने का कोई अधिकार प्राप्त नहीं होगा।

4.2 आवेदित क्षेत्र हेतु वन संरक्षण अधिनियम, 1980 के तहत वन विभाग से आवश्यक अनुमति प्राप्त करने में असफल रहने के फलस्वरूप यदि कंपनी द्वारा तैयार कराया गया माईनिंग प्लान निष्फल हो जाता है तो इसका कोई उत्तरदायित्व राज्य शासन पर नहीं होगा एवं इस संबंध में कंपनी द्वारा राज्य शासन के विरूद्ध कोई दावा (क्लेम) मान्य नहीं किया जाएगा।

5/ यदि आपको उपर्युक्त शर्तें मान्य हो तो पैरा-2 की तालिका में दर्शित वन कंपार्टमेंट एवं अक्षांश एवं देशांश के क्षेत्र के लिए 06 माह की अवधि के भीतर भारतीय खान ब्यूरो से माईनिंग प्लान अनुमोदित कराकर इस विभाग को प्रस्तुत करें एवं साथ ही वन संरक्षण अधिनियम, 1980 के तहत अनुमति प्राप्त करने हेतु अग्रिम कार्यवाही करें।

(संजय कनकने)
अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग

पृ0 क0 एफ-3-44/2007/12. रायपुर, दिनांक 1 JUL 2009

प्रतिलिपि:-

1. सचिव, भारत सरकार, खान मंत्रालय शास्त्री भवन, नई दिल्ली ।
2. कन्ट्रोलर जनरल, भारतीय खान ब्यूरो सेकेण्ड फ्लोर ए ब्लाक, इदिरा भवन, सिविल लाईन, नागपुर (महाराष्ट्र)
3. संचालक, भौमिकी तथा खनिकर्म, संचालनालय, सोनाखान भवन, रायपुर।
4. कलेक्टर, जिला उत्तर बस्तर कांकेर (छत्तीसगढ़)।
5. मुख्य वन संरक्षक (भू-प्रबंध) एवं नोडल अधिकारी वन संरक्षण अधिनियम, 1980 मेडिकल कॉलेज रोड, रायपुर ।
6. क्षेत्रीय खान नियंत्रक, भारतीय खान ब्यूरो सेकेण्ड फ्लोर ए ब्लाक, इदिरा भवन, सिविल लाईन, नागपुर (महाराष्ट्र)।
7. गार्ड फोल्डर

अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग

ANNEXURE-7

छत्तीसगढ़ शासन
खनिज साधन विभाग
मंत्रालय
दाऊ कल्याण सिंह भवन, रायपुर

क्रमांक एफ 3-115/2003/12. रायपुर, दिनांक

प्रति,

सचिव,
भारत सरकार,
खान मंत्रालय,
शास्त्री भवन, नई दिल्ली ।

विषयः जिला कांकेर, तहसील भानुप्रतापपुर के ग्राम रसूली के वन कम्पार्टमेंट नं. 334, 335, 337, 338, 339 तथा 334(पी) के क्षेत्र पर लौह अयस्क खनिज का पूर्वेक्षण अनुज्ञप्ति/खनि पट्टा आवेदन पत्र ।

संदर्भः– खान मंत्रालय का पत्र क्रमांक 6(36)2004–M-IV(ii), दिनांक 31.8.2004 ।

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उपर्युक्त विषय में कृपया संदर्भित पत्र का अवलोकन करें जिसके द्वारा जिला कांकेर तहसील भानुप्रतापपुर के ग्राम रसूली के वन कम्पार्टमेंट नं. 338, 339 रकबा 400 हेक्टर क्षेत्र पर लौह अयस्क खनिज के पूर्वेक्षण अनुज्ञप्ति हेतु मेसर्स नवभारत फ्यूज कंपनी, रायपुर के आवेदन दिनांक 20.10.2003 पर विचार करते हुए पूर्वेक्षण अनुज्ञप्ति स्वीकृत करने का निर्णय लिया गया । खनिज लौह अयस्क के पूर्वेक्षण अनुज्ञप्ति हेतु एम0एम0डी0आर0 एक्ट 1957 की धारा 5 (1) के तहत राज्य सरकार द्वारा भेजे गये प्रस्ताव पर केन्द्र सरकार से मेसर्स नवभारत फ्यूज कंपनी के पक्ष में आवेदित क्षेत्र 400 हेक्टर हेक्टर क्षेत्र पर 02 वर्ष की अवधि के लिये पूर्वेक्षण अनुज्ञप्ति स्वीकृत किये जाने का अनुमोदन प्राप्त हुआ । अनुमोदित APPROVED

2/ मेसर्स स्टील अथारिटी ऑफ इंडिया लिमिटेड, भिलाई स्टील प्लांट, [illegible] अपने प्रस्तुत उनके लीज क्षेत्र के नवीकरण आवेदन पर कार्यवाही के दौरान यह तथ्य सामने आया है कि मेसर्स नवभारत फ्यूज कंपनी, लि. द्वारा पूर्वेक्षण अनुज्ञप्ति हेतु आवेदित क्षेत्र में से 180 हेक्टर क्षेत्र मेसर्स स्टील अथारिटी ऑफ इंडिया लिमिटेड को स्वीकृत खनिपट्टा क्षेत्र का एक भाग है, जो नियमानुसार मेसर्स नवभारत फ्यूज कंपनी, लि. को स्वीकृत किया जाना संभव नहीं है ।

3/ मेसर्स स्टील अथारिटी ऑफ इंडिया लिमिटेड को पूर्व से स्वीकृत लीज क्षेत्र को छोड़ने पर मेसर्स नवभारत फ्यूज कंपनी लिमिटेड को केवल 220 हेक्टर क्षेत्र उपलब्ध होता है जिसके अक्षांश एवं देशांश निम्नानुसार है :–

क्र0	आवेदक का नाम	कम्पार्टमेंट नंबर एवं आवेदित क्षेत्र	* रायलेटीज कम्पास बी.टी./15 को-आर्डिनेट्स			कम्पार्टमेंट नंबर एवं स्वीकृत रकबा
			प्वाइंट	अक्षांश	देशांश	
1	मेसर्स नवभारत फ्यूज कंपनी, रायपुर	338 व 339 400 हेक्टर	A D G H I L N O	20° 25' 39" 20° 25' 14" 20° 25' 26" 20° 25' 50" 20° 25' 47.8" 20° 25' 50.8" 20° 26' 27.8" 20° 26' 12"	80° 55' 46" 80° 55' 37.8" 80° 55' 15.6" 80° 55' 55.6" 80° 56' 29" 80° 56' 49" 80° 56' 45" 80° 55' 57"	338 व 339 220 हेक्टर (को-आर्डिनेट्स से मात्र आवेदित क्षेत्र)

Arvind Kumar Singh
RQP/NGP/225/2000/A

पृ.

4/ उपर्युक्त से स्पष्ट है कि आवेदक को उसके द्वारा आवेदित क्षेत्र के वन कम्पार्टमेंट नं. 338, 339 के रकबा 220 हेक्टर क्षेत्र ही उपलब्ध हो रहा है । अतएव आवेदक मेसर्स नवभारत फ्यूज कंपनी लिमिटेड रायपुर के पक्ष में खान मंत्रालय द्वारा 400 हेक्टर क्षेत्र पर प्राप्त अनुमोदन के विरुद्ध मौके पर उपलब्ध केवल 220 हेक्टर क्षेत्र पर पूर्वेक्षण अनुज्ञप्ति स्वीकृत करने की कार्यवाही की जा रही है । कृपया खान मंत्रालय के अभिलेख तदनुसार संशोधित करने का कष्ट करें ।

5/ इस संबंध में पूर्व में जारी इस कार्यालय का पत्र कमांक एफ 3-115/2003/12, दिनांक 23.2.2006 एतद् द्वारा निरस्त किया जाता है ।

(ए.के. आर्य)
अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग

कमांक एफ एफ 3-115/2003/12, रायपुर, दिनांक 24-4-06

प्रतिलिपि--

1. मुख्य वन संरक्षक (शाखा भू-प्रबंध), अरण्य भवन, छत्तीसगढ़ रायपुर, की ओर उनके पत्र कमांक 11/भू-प्रबंध/एम0/2546, दिनांक 20.9.2005 के संदर्भ में सूचनार्थ एवं आवश्यक कार्यवाही हेतु प्रेषित.
2. संचालक, भौमिकी तथा खनिकर्म, सोनाखान भवन, छत्तीसगढ़ रायपुर.
3. कलेक्टर, जिला-कांकेर छ0ग0.
4. मेसर्स नवभारत फ्यूज कंपनी, रायपुर.

की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु अग्रेषित ।

अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग

छत्तीसगढ़ शासन
खनिज साधन विभाग
मंत्रालय
दाऊ कल्याण सिंह भवन, रायपुर

क्रमांक एफ 3–115/2003/12. रायपुर, दि.

प्रति,

कलेक्टर,
जिला कांकेर
छत्तीसगढ़

विषय: जिला कांकेर, तहसील भानुप्रतापपुर के ग्राम रसूली के वन कम्पार्टमेंट नं. 338 तथा 339 के 400 हेक्टर क्षेत्र पर लौह अयस्क खनिज का पूर्वेक्षण अनुज्ञप्ति आवेदन पत्र ।

संदर्भ– इस विभाग का पृष्ठांकन क्रमांक एफ 3–115/2003/12, दिनांक 24.4.2006 ।

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उपर्युक्त विषय में कृपया संदर्भित पत्र का अवलोकन करें जिसके द्वारा जिला कांकेर तहसील भानुप्रतापपुर के ग्राम रसूली के वन कम्पार्टमेंट नं. 338, 239 के 220 हेक्टर क्षेत्र पर लौह अयस्क पूर्वेक्षण अनुज्ञप्ति की स्वीकृति संसूचित की गई है, जिसके अक्षांश एवं देशांश निम्नानुसार है :–

क्र०	आवेदक का नाम	कम्पार्टमेंट नंबर एवं आवेदित क्षेत्र	टोपोशीट क्रमांक 64 डी/15 को-आर्डिनेट्स			कम्पार्टमेंट नं० एवं स्वीकृत रकबा
			पाइंट	अक्षांश	देशांश	
1	मेसर्स नवभारत खनिज कंपनी, रायपुर	338 व 339 400 हेक्टर	A D G H I L N O	20° 25' 39" 20° 25' 14" 20° 25' 26" 20° 25' 50" 20° 25' 47.8" 20° 25' 50.8" 20° 26' 27.8" 20° 26' 12"	80° 57' 46" 80° [illegible] 80° 57' [illegible] 80° 56' [illegible] 80° 56' 24" 80° 56' 39" 80° 56' 45" 80° 57' 27"	338 व 339 220 हेक्टर के लिए स्वीकृत किया

अनुमोदित
APPROVED

2/ राज्य शासन द्वारा उपर्युक्त क्षेत्र पर आवेदक कंपनी को नीचे दर्शाये नियम एवं शर्तों पर पूर्वेक्षण अनुज्ञप्ति की स्वीकृति प्रदान की जाती है :–

1 आवेदक का नाम एवं पता : मेसर्स नवभारत खनिज कंपनी, रायपुर

2 स्वीकृत क्षेत्र का विवरण :–

जिला	तहसील	ग्राम	वन खंड क्रमांक	रकबा
कांकेर	भानुप्रतापपुर	रसूली	338, 339	220 हेक्टर [illegible] [illegible]

3 खनिज का नाम : लौह अयस्क

4 पूर्वेक्षण अनुज्ञप्ति की अवधि 02 वर्ष (बिना नवकरण कंडिका के)

Arvind Kumar Singh
RQP/NGP/225/2000/A

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5. सिंगरौली/लाइट से सर्वेक्षण यदि आवश्यक हो तो किया जाये

6. प्रास्पेक्टिंग आपरेशन हेतु नियमानुसार प्रास्पेक्टिंग स्कीम तैयार की जायगी तथा प्रास्पेक्टिंग के दौरान खान एवं खनिज (विकास एवं विनियमन) अधिनियम, 1957, खनिज रियायत नियम, 1960 एवं खनिज संरक्षण तथा विकास नियम, 1988 के प्रावधानों का पालन सुनिश्चित किया जाएगा ।

7. मुख्य वन संरक्षक (यू.-प्रबंध) रायपुर के पत्र क्रमांक 31/यू. प्रबंध/खनिज/2546, दिनांक 20.4.2005 द्वारा वन संरक्षण अधिनियम, 1980 के अंतर्गत खनिज लीज आवेदक के पूर्वेक्षण अनुज्ञप्ति हेतु जारी शर्तों का पूर्ण रूपेण पालन किया जाए ।

8. पर्यावरण संरक्षण अधिनियम, 1986 के प्रावधानों के अंतर्गत नियमानुसार जो भी अनुमति प्राप्त किये जाने की आवश्यकता हो, सम्बन्धी अनुमति संज्ञान प्राधिकारी से प्राप्त करने के उपरान्त ही पूर्वेक्षण कार्य प्रारम्भ किया जाए ।

3/ यदि आवेदक को उपरोक्त शर्तें मान्य हो तो नियमानुसार जमानत राशि जमा कराकर आदेश प्राप्त होने के तीन माह के भीतर अनुबंध का निष्पादन किया जाकर अनुबंध की एक प्रति इस विभाग को भेजी जाए ।

अनुबंध निष्पादन पूर्व यह सुनिश्चित कर लिया जाए कि आवेदक पर कोई खनिज राजस्व की राशि बकाया तो नहीं है ।

(डी.आर. राव)
अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग
रायपुर, दिनांक

पृ. क्रमांक एफ 3–115/2003/12.

प्रतिलिपि–

1. सचिव, भारत सरकार, खान मंत्रालय, शास्त्री भवन, नई दिल्ली की ओर इस विभाग के पत्र क्रमांक एफ 3–115/2003/12, दिनांक 24.4.2006 के अनुक्रम में सूचनार्थ प्रेषित,
2. संचालक, भौमिकी तथा खनिकर्म, छत्तीसगढ़, खनिज साधन भवन, सिविल लाइंस, रायपुर
3. कंट्रोलर जनरल, इंडियन ब्यूरो ऑफ माइंस, नागपुर (महाराष्ट्र)
4. डायरेक्टर जनरल ऑफ माइन्स सेफ्टी, धनबाद (बिहार)
5. मेसर्स नवभारत फ्यूज कंपनी, रायपुर,

की ओर सूचनार्थ एवं आवश्यक कार्यवाही हेतु अग्रेषित ।

अवर सचिव
छत्तीसगढ़ शासन
खनिज साधन विभाग

ANNEXURE-8

अनुमोदित
APPROVED

Arvind Kumar Singh
RQP/NGP/225/2000/A

FORM-F

Model form of Prospecting Licence

[See Rule 15(2)]

This indenture made this ..... Day of ..... of 2006 between the Governor of ..... / the President of India (thereinafter referred to as the State Government which expression shall where the context so admits be deemed to include his successors and assignees) of the one and **Navbharat Fuse Co. Ltd., 'Navbharat Udyog Bhawan', Ring Road No.1, P.O. Ravigram, Raipur (CG).**

When the license is an individual :-

..... Not applicable ..... (Name of person with address and occupation and) (hereinafter referred to as the licensee which expression shall where the context so admits be deemed to include his heirs executors, administrator, representative and permitted assignees).

When the licensee is a Registered Firm :-

..... Not applicable ..... (Name and address of partner) son of ..... of ..... Son of ..... of ..... Son of ..... of ..... all carrying on business in partnership under the firm name and style of ..... (Name of the firm) registered under the Indian Partnership Act, 1932 (9 of 1932) and having their registered office at ..... in the town of ..... hereinafter referred to as the licensee which expression shall where the context so admits be deemed to include all the said partner, their executors, respective heirs, legal representatives and permitted assignees).

.....(Name of the persons with address and occupation) (hereinafter referred to as the licensee which expressions shall where the context so admits be deemed to include his heirs executors, administrators, representatives and permitted assignees).

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When the licensee is a Registered Company :-

Navbharat Fuse Co. Ltd., a company registered under the Company Act, 1956. Under which incorporated and having its registered office at 'Navbharat Udyog Bhawan', Ring Road No.1, P.O. Ravigram, Raipur (CG) (hereinafter referred to as the licensee which expression shall where the context so admits be deemed to include its successors and permitted assignees) of other part.

Whereas the licensee/licensees has/have applied to the State Government in accordance with the Mineral Concession Rules, 1960 (hereinafter referred to as the said Rules) for a license of prospect for Iron Ore in the lands specified in Schedule 'A' hereunder written and delineated in the plan herewith annexed (hereinafter referred to as the said lands) and has/have deposited with the State Government

Arvind Kumar Singh
RQP/NGV/225/2000/A

पुनरावृत्त शुल्क नीचे लिखे अनुसार चुका दिया गया है :-

रु.- पै.

(1) मार पुलांक अधि. के अन्तर्गत-.....
(2) म.प्र. पंचायत.....
(3) म.प्र. नगर पा. अधि.....
(4) म.प्र. उपकर अधि.....
(5) अतिरिक्त सरचार्ज.....
(6) अधिक शुल्क (यदि चुकाना पड़ा हो).....

योग 41 11

रा./उ./पं./.....

Rs.2,500/-as the prescribed security in respect of each license and has/have paid to the State Government the sum of Rs.2000/-.

As prescribed prospecting fee for 24/2..... months/years in advance in respect of such license and whereas there is no objection to the grant of such this license ((And whereas the Central Government has approved the grant of this license*)

Now These Present Witness as follows:-

PART – I

In consideration of the fee, royalties convents and agreements hereinafter reserved and contained and on the part of the licensee/licensees to be paid observed and performed the State Government hereby grants and demises unto the licensee/licensees the sole right and license.

To enter upon the lands to search for, win or carry awar and dispose of minerals won :-

1) To enter upon the lands and to search for, by quarrying, boring and digging or otherwise all so say Iron Ore lying or being within under or throughout the said lands.

2) In the case of minerals other than gold, silver, precious stones or mice, this license shall not confer upon the licensee a right to win or carry away the minerals for commercial purposes.

Provided that the licensee may win and carry away for purposes other than commercial purposes.

a) Any quantity of such minerals within the limits specified in Schedule III of the Mineral Concession Rules, 1960 without any payment.

b) Any quantity of such minerals exceeding such limits but not exceeding twice such limits, which is won during prospecting operations on payment of royalty for the time being specified in the Second Schedule to the Act in respect of those minerals.

APPROVED

c) Any quantity of limestone not exceeding 500 tonnes for testing its use in any industry specified by the Central Government in this behalf, on payment of royalty for the time being specified in the Second Schedule to the Act in respect of limestone.

d) With the written approval of the State Government the licensee may carry away quantities of minerals in excess of twice the limit specified in Schedule III, on payment of royalty for the time being specified in the Second Schedule to the Act for Chemical, metallurgical ore dressing and other test purposes.

To clear undergrowth and brush wood etc.: (3_ Subject to the provisions of clause 5 and 6 of Part II of these presents for the purpose aforesaid to clear undergrowth and brush rood and trees with the sanction of the Deputy Commissioner/Collector previously obtained in writing, to make and use any drains or water course on the said lands for purpose as may be necessary for effectual

Arvind Kumar Singh
RQP/NGP/225/2000/A

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के द्वारा उप - [illegible] भा. पुर जिला कांकेर
के उप-पंजीयक के कार्यालय में दिनांक.....
को प. पु./म.प.....बजे प्रस्तुत
किया गया।

उप-पंजीयक,
.....(भा. पुर)

राजपत सिंह पि० स्व० उत्तम सिंह
मनेजर (इन्फ्रमेन्ट) नवभारत
पावर कंपनी लि०कांपा रायपुर
जिला रायपुर, जिला रायपुर

के द्वारा उप - पंजीयक भा. पुर जिला कांकेर
के उप-पंजीयक के कार्यालय में दिनांक 23/8/06
को प. पु./म.प. 2:30 बजे प्रस्तुत
किया गया।

उप-पंजीयक,
.....(भा. पुर)

carrying on the prospecting operations and for the workmen employed thereon and with the like sanction to use any water provided always that such use shall not diminish or interfere with the supply of water to which any cultivated, land, village, building or watering place for livestock has heretofore been accustomed and that no streams, spring or well shall be found or polluted by any such use or the prospecting operation hereby licensed.

To bring upon and erect machinery etc. On the said lands :- (4) To erect and bring upon the said land all such temporary huts, sheds and structures, stream and other engines machinery and convenience, chattels and effects as shall be proper and necessary for effectually carrying on the prospecting operations hereby licensed or for the workmen employed thereto.

Reserved never the less to the State Government full power and liberty at all times to enter in to and upon and to grant or demise to any person or persons whomsoever liberty to enter and upon the said lands for all or any purposes other than those for which sole right and license are hereby expressly conferred upon the license/licensees and particularly (and without hereby in any way qualifying such general power an liberty) to make on, over or through the said land such roads, tramways, railways and ropeways as shall be considered necessary or expedient for any purposes and to obtain from and out of the said lands such stone earth or other materials as may be necessary or requisite for marking repairing or maintaining such roads, tramways and railways and ropeways to pass and repass at all times over and along such road, tramways, railways and ropeways for all purposes and as occasion shall require.

To Hold the said right and licence in to the licensee / licensees from the date of presents for the term of hereinafter referred to as the said terms).

Paying therefore annually in advance a sum Rs. ...450/- , being the prospecting fee for each year or portion of a year and immediately on the expiration or sooner determination of the said term clear of all fees rates taxes, charges, deduction and royalty at the rates specified in Schedule 'B' and 'C' hereunder written on the minerals won and carried away by the licensee/licensees during the said terms.

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PART –II
Covenants by Licensee/Licensees

The licensee/Licensees hereby covenants with the State Government as follows :-

Payment and rates of royalty :-

(1) To pay royalty to the State Government at such raters and at such times as are specified in schedules 'C' hereunder written provided that the licensee/licencees shall be entitled to carry away free of royalty not more than for experimental purpose.

Payment of Prospecting fee :-

(2) To pay annually in advance a prospecting fee in respect of ensuring year or part of the year at such rates and times as are specified in Schedule "B" hereunder written.

Authorised Signatory

For,Nav Bharat Fuse Co.Ltd

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सेवा में,
न्यायालय
निष्पादन अधिकारी जिला जज
कांकेर (छ.ग.)

मैं, भानुप्रतापपुर जिला J.ए.कांकेर
इन्हें मैं व्यक्तिगत रूप से जानता हूं स्वीकार करता हूं कि
तथाकथित [illegible] विनेश का निष्पादन
[illegible] गया था और प्रतिफल के पूरे/आंशिक रू. [illegible]
[illegible]
प्राप्त हो गये तथा मेरी उपस्थिति में चुकाए गए थे, और
प्रतिफल की बकाया रकम .....
बच गई है। जो पंजीयन के बाद प्राप्त होगी।
.....

सेवा में,
[illegible] कलेक्टर
[illegible] (ई.ओ.डब्ल्यू-2) नवभारत
[illegible] तेलीपारा रायपुर
जिला रायपुर

मैं, भानुप्रतापपुर जिला J.ए.कांकेर
इन्हें मैं व्यक्तिगत रूप से जानता हूं स्वीकार करता हूं कि
तथाकथित [illegible] विनेश का निष्पादन
[illegible] गया था और प्रतिफल के पूरे/आंशिक रू. [illegible]
[illegible]
प्राप्त हो गये तथा मेरी उपस्थिति में चुकाए गए थे, और
प्रतिफल की बकाया रकम .....
बच गई है। जो पंजीयन के बाद प्राप्त होगी।
.....

To Carry on working in workman-like-manner:-

(3) To work and carry on the operation hereby licensed in a fair orderly skilful and a workman-like manner and with as little damage as may be to the surface of the lands and to trees, crops buildings structures and other property thereon.

Maintenance of correct accounts :-

(4) Licensee/Licensees shall maintain a correct and faithful account of al the expenses incurred by him/them on prospecting operations and also the quantity and other particulars of all mineral obtained during such operation and their despatch.

No mining operations within 50 meters of public works etc. :-

(5) The licensee/licensees shall not work or carry on or allow to be worked or carry on any prospecting operations at or to any point within a distance of 50 meters from any railway line except with the previous written permission of the Railway Administration concerned or from any reservoir, canal or other public works such as public roads and buildings or inhabited site except with the previous written permission of the Deputy Commissioner/Collector or any other Officer authorized by the State Government in this behalf and otherwise than in accordance with such instructions, resections and conditions either general or special which may be attached to such permission. The said distance of 50 meters shall be measured in the case of railway line, reservoir or canal horizontally from the outer toe of the bank or the outer edge of the cutting as the case may be and in case of building horizontally from the plinth thereof. In the case of village roads no working shall be carried on within a distance of 10 meters of the outer edge of the cutting except with the previous written permission of the Deputy Commissioner/Collector or any other officer duly authorized by the State Governments in this behalf and otherwise than in accordance with such directions, restrictions and additions either general or special which may be attached to such permission.

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Explanation:- For the purposes of this clause the expression "Railway Administration" shall have the same meaning as it is defined to have in the Railway Act, 1899, by clause (6) of Section 3 of that Act. "Public Road" shall mean a road, which has been constructed by artificially surfaced as distinct from a tract resulting from repeated use. Village road will include any tract shown in the Revenue records as village road.

Not to cut or injure trees in reserved forest etc., without previous permissions :-

(6) Not to cut or injure any timber or tree or any un occupied or unreserved land without the written permission of the Deputy Commissioner Collector nor without such permission disturb the surface of any road or enter upon any public pleasure ground, burning or burial ground, or any place held sacred by any class of persons or interfere with any right of way, well or tank.

Arvind Kumar Singh
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Authorised Signatory

For Nav Bharat Fuse Co. Ltd.

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1. सुरेन्द्र कुमार उर्फ
~~खड़गोष~~ जिला रोहतक

2. P.M. मोहन
~~अलीगढ़~~ जेल
~~कारागार~~
~~अनिल हाथरस~~

की जांच पूर्वांकित निरीक्षक/अधिवक्ता
की शिनाख्त के विषय में की गई।
आज तारीख 23/6/.....2006

उप-संचीयक,
(आ. पुर)

Entry upon land in occupation or a person :-

(7) Not to enter upon any land in the occupation of any person without the consent of the occupier not to cut or in any way injure any trees, standing crops building house, structure or other property of any kind of the occupier of any land or any other person without the written consent of such owner, occupier or person.

Not to commence work in reserved forest without previous permission:

(8) Not to enter upon or commence prospecting in any protected or reserved forest situated upon the lands without obtaining the written sanction of the District Forest Officer nor otherwise than in accordance with such condition as may be prescribed in such sanction.

Indemnify Government against all claims:-

(9) To make reasonable satisfaction and pay such compensation as may be assessed by lawful authority in accordance with the law in force to the subject for all damage, injury or disturbance which may be done by him to exercise of the powers granted by this license and to indemnify and keep indemnified fully and completely the State Government against all claims which may be made by any person or persons in respect of any such damage, injury or disturbance and all costs and expenses in connection therewith.

(9A) To pay wage not less than minimum wage prescribed by the Central or State Government from time to time.

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(9B) To comply with the provisions of the Mines Act, 1952.

(9C) To take measure at his own expense for the protection of environment like planting of trees, reclamation of mined land use of pollution-control devices, and such other measure as may be prescribed by the Central or State Government from time.

(9D) To pay compensation to the occupier of the surface of the land on the date and in the manner laid down in these rules.

Forfeiture of Seurity Deposit etc.:-

(10) Whenever the security deposit of Rs.2500/- or any part there of or any further sum here deposited with the State/Central Government in replenishment there of shall be forfeited or applied by the State/Central Government, pursuant to the power hereinafter declared in that behalf the licensee/licensees shall forthwith deposit with the State Government such further sum as may be sufficient with the un-appropriated part thereof bring the amount in deposit with the State Government up to the sum of Rs.2500/-.

Licensee not to be controlled by trust, syndicate etc.:

(11) The licensee/licensees shall not be controlled or permit himself/themselves to be controlled by any trust syndicate, corporations, firm or person except with

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उपरोक्त शिकायतकर्ता/पक्षकार/अधिवक्ता
के अंगूठे का निशान देने समक्ष आज
दिनांक 23/04/26 को लिया गया।

उप-पंजीयक,
(का. पुर.)

सुरेन्द्र कुमार कनौजिया

the written consent of the State Government which will be given only after obtaining the prior approval of the Central Government in cases where prospecting license executed is in respect of minerals included in the First Schedule to the Act.

Report of Accident :-

(12) The licensee/licensees shall without delay send to the Deputy Commissioner/ Collector a report any accident causing death or serious bodily injury or serious injury to property or seriously affecting or endangering life or property which may occur in the course of the operations under the license.

Section 18 of the Act 67 of 1957 :-

(13) The licensees shall be bound by such rules as may be issued by the Central Government under Section 18 of the Mines and Minerals (Regulation and Development) Act, 1957 (67 of 1957) and shall not carry on prospecting or other operations under the said license in any way other than as prescribed under these rules.

To provide for weighing or measurement of material won :

(14) At such times and occasions as may be required the licensee/licensees shall well and truly measure or weight or cause to be measured or weighed upon some part of the said lands all minerals from time to time won from the said lands by the licensee/licensees and all such minerals as may require to be measured or weighed for the purpose of ascertaining the royalty payable under these presents shall be so measured or weighed. The licensee/licensees agree not to take away been measured or weighed as the case may be. The licensee/licensees future agree to give 30 days' previous notice in writing to the Deputy Commissioner/Collector of every such measuring or weighing in order that he or some person on his behalf may be present.

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Plugging of bore holes, fencing etc., and restoring the surface of land after determination or abandonment:-

(15) Save in the case of land over which the licensee/licensees shall have been granted a mining lease, on or before the expiration or sooner determination of the license he shall within six months next after the expiration or sooner determination of the license or the date of abandonment of the undertaking, whichever shall first occur securely plug any bore or hole and fill up or hence any holes or excavations that may have been made in the lands to such an extent as may be required by the Deputy Commissioner/Collector concerned and shall to a like extent restore the surface of the land and all building thereon which may be, have been damaged or destroyed in the course of prospecting provided that the licensee/licensees shall not be required to restore the surface of the land, or any building in respect of which full and proper compensation has already been paid.

Removal of Machinery etc. after expiration, determination or abandonment:-

(16) Upon the expiration or sooner determination of this license abandonment of the operations licensed, whichever shall first occur, the licensee/licensees

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For Nav Bharat Fuse Co.Lt.

Arvind Kumar Singh
SUPERINTENDENT/225/2009/A

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उपरोक्त निष्पादनकर्ता/पालक/अभिभावक
[illegible]
के अंगूठे का निशान मेरे समक्ष आज
दिनांक 23/2/06 को लिया गया।

उप-पंजीयक,
(द्वा. पुर)

shall remove expeditious at his/their own cost all buildings, structures, plant, engines, machinery, implements, utensils and other property and effects theretofore, erected or brought by the licensee/licensees and then standing or being upon the said lands and also all minerals therefore won by the licensee/licensees under the authority of these presents and then being upon the said lands which may be comprised in any mining lease granted to the licensee/licensees during the subsistence of this license.

Report of work done before the refund of security deposit:-

(17) At any time before the said security deposit is returned to him/them or transferred to any other accounts or within one month after the expiration or sooner determination to the license or abandonment of operations whichever is earlier, the licensee/licensees shall submit to the State Government confidential report of the work done by him/them and disclose the information acquired by him/them in the course of the operations carried on under this license regarding the geology and mineral resources of the area covered by the license.

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Report of Information obtained by Licensee

(17 A) (1) The licensee shall submit to the State Government :

(a) A quarterly report of the work done by him stating the number of persons engaged and disclosing in full the geological, geophysical or other valuable date collected by him during the period.

The report shall be submitted within three months of the close of the period to which it relates.

(b) Within three months of the expiry of the license or abandonment of operations or termination of the license, whichever is earlier, a full report of the work done by him and all information relating to mineral resources acquired by him in the course of prospecting operations in the are covered by the license.

(2) While submitting reports under clause (1), the licensee may specify that the whole or any part of the report or date submitted by him shall be kept confidential; and the State Government shall thereupon keep the specified portion as confidential for a period of two years from the expiry of the license, or abandonment on operation to termination of the license whichever is earlier.

Employment of Foreign National:-

(18) The licensee/licensees shall not employ, in connection with the prospecting operation any person who is not an Indian national except with the previous approval of the Central Government.

Furnishing of Geophysical Data:-

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(19) The licensee/licensees shall furnish:-

(a) All geophysical data relating to prospecting or engineering and ground water surveys, such as anomaly maps, sections, plans, structures, contour maps, logging, collected by him/them during the course of prospecting operations to the Director General, Geological Survey of India.

(b) All information pertaining to investment of radio active minerals collected by him/them during the course of prospecting operations to the Secretary to the Department of Atomic Energy, New Delhi.

Data or information referred to above shall be furnished every year reckoned from the date of commencement of the period of the prospecting license.

PART III

Power of Governments

अनुमोदित
APPROVED

It is hereby agreed as follows:

Cancellation of the license and forfeiture of the deposit in case of breach of conditions.

(1) In the case of any branch of any condition of license by the licensee/licensees or his transferees or assignees, the State Government shall give a reasonable opportunity to the licensee/licensees of stating his/their case and where it is satisfied that the branch is such as cannot be remedied; on giving thirty days notice to the licensees or his transferees or assignees, determine the license and or forfeit the whole or any part of the said deposit of Rs.2500/- deposited under the convents in that behalf as the State Government considers the breach to be of a remediable nature it shall give notice to the licensee/licensees or his transferees or assignees as the case may be requiring him/them to remedy the breach within thirty days from the date of receipt of the notice informing him of the penalty proposed to be inflicted if such remedy is not made within such period.

Application of Security to payment of compensation:-

(2) The State Government may from time to time appropriate and apply the said deposit of Rs.2500/- or any part thereof or any further sum deposited under any covenants in that behalf hereinbefore contained in or towards payments or satisfaction of any claims to compensation which the Government has or may have against the licensee/licensees and or which may be made by any person or persons against the licensee/licensees and/or in State Government in respect of any of damage or injury done by the licensee/licensees in exercise of any of the powers conferred by this license and in or towards payment of any damages, cost or expenses which may become payable as the result of or in connection with any suits or proceedings which may be instituted against the State Government in respect of any such damage or injury and also in or towards payment of the expenses of the carrying out of

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performance of any works or matters which the licensee/licensees shall fail to carry out or perform after the expiry or sooner determination of this license or the abandonment of the operations hereby licensed in accordance with the covenants in that behalf hereinbefore contained or in payment of satisfaction of any such claims damages costs and expenses.

When the properties of licensee are not removed from the lands in time:-

(3) If any buildings, structures, plant, engines, machinery, implements, utensils or other property of effects or any minerals which ought to be removed by the licensee/licensees from the said lands, in accordance with the covenant in that behalf hereinbefore contained, be not so removed within one calendar month after notice in writing requiring their removal shall have been given to the licensee/licensees by the State Government, the same shall be deemed to become the property of the State Government and may be sold or disposed of for the benefit of the State Government in such manner as the State Government shall deem fit, without any liability to pay any liability to pay any compensation or to account to the licensee/licensees in respect thereof.

License/Licensees to pay for work done on his behalf:-

(4) If any of the works or matters, which in accordance with the covenants in that behalf hereinbefore contained are to be carried out or performed within the specified in that behalf, the State Government may cause the same to be carried out or performed and the licensee/licensees shall pay the State Government on demand all expenses which shall be incurred in such carrying out of performance of the same.

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APPROVED

Right of pre-emption:-

(5) (a) The State Government shall from time to time and at all times during the said term have the right (to be exercised by notice in writing the licensee/licensees) or pre-emption of the said minerals (and/all products hereof) lying in or upon the said lands or elsewhere under the control of the licensee/licensees and the licensee/licensees shall with all possible expedition deliver all mineral or products or mineral purchased by the State Government under the power conferred by his provision in quantities the time in manner and the place specified in the notice exercising the said right.

(b) Should the right or pre-emption conferred by his present provision be exercised and a vessel chartered to carry the minerals or product thereof procured on behalf detained on demurrage at the post of loading, the State Government or the Central Government be detained or demurrage at the point of loading, the licensee/licensees shall pay the amount due for demurrage according to the terms of the charter party of such vessel unless the State Government shall be satisfied that the delay is due to cause beyond the control of the licensee/licensees.

(c) The price to be paid for all minerals or products of minerals taken in pre-emption by the State Government in exercise of the right hereby conferred shall be the fair market price prevailing at the time of pre-emption, PROVED THAT, in order to assist in arriving at the said fair

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For Nav Bharat Fuse Co.Ltd.

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RQPNGP/225/2000/A

market price the licensee/licensees shall if so required furnish to the State Government for the confidential information of the Government, particulars of the quantities, description and price of the said minerals or products thereof sold to other customers and of charter entered in to for freight for carriage of the same and shall produce to original or authenticated copies of contracts and charter parties entered into for the sale of freightage or such minerals of products.

(d) In the event of the existence of a state of war or emergency (of which existence the, President of India shall be the sole judge and a notification to this effect in the Gazette of India shall be conclusive proof) the State Government with the consent of the Central Government shall from time tome and all the times during the said term have the right to b expressed by a notice in writing to the licensee/licensees forthwith take possession and control of the works plant, machinery and premises of the licensee/licensees on or in connection with the said lands or the operations under his license and during such possession or control, the licensee/licensees on or in connection with the said lands or the operations under this license and during such possession or control, the licensee/licensees shall conform to and obey all directions given by or on behalf of the Central or State Government regarding the use or employment of such works, plants premises and minerals PROVE THAT fair compensation which shall be determined in default of agreement by the State Government shall be paid to the licensee/licensees for all loss or damage sustained by him/them by reason or in consequence of the exercise of the powers conferred by this clause and PROVIDED ALSO that exercise of such powers shall not determines of these presents further then may be necessary to give effect to the provision of this clause.

PART IV

Right of licensee/licensees

अनुमोदित
APPROVED

To transfer of license and fee payable:-

It is further agreed as follows :-

(1) During the subsistence of this license or of any renewal thereof the licensee/licensees may, with the previous sanction of the State Government transfer his/their license or any right title or interest therein to a person(who has filed an affidavit stating that he has filed upto date income tax return paid income tax assessed on him and paid the income tax on the basis of the self assessment as provided in the Income Tax Act, 1961 (43 of 1961) on payment of fee of rupees five hundred).

Provided that the State Government should not give its sanction unless:-

(i) the licensee has furnished an affidavit along with his application for transfer of the prospecting license specifying therein the amount that he has already taken or proposes to be taken as consideration from the transferee.

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For Nav Bharat Fuse Co.Ltd.

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(ii) The transfer of the prospecting license is to be made to a perso or body directly undertaking prospecting operations.

(2) **Renewal of Prospecting License** :- If the licensee/licensee be desirous of taking a renewed license of the premises hereby demised or of any part or parts that for a further terms from the expiration of the tem hereby granted and is otherwise eligible, he/they shall apply to the State Government for renewal at least ninety days prior to the date of expiration of the tem of license under these covenants and shall pay the rents and royalties hereby reserved and shall observe and perform up to the expiration of the term hereby granted. The State Government on receipt o the application for renewal shall consider it in accordance with relevant sections of the Act, and relevant rules of the Mineral Concessions Rules, 1960 and shall pass such orders as it may deem fit. If renewal is granted the State Government will at the expense of the licensee/licensees and upon his/their executing and delivering to the State Government of required, the counter part there of execute and deliver to the licensee/licensees the renewed licensee of the said premises or part there of for a further term of 2 years at such rates of royalty and on such terms and subject to such rates and royalties and on such term and subject to covenants and agreements including this present covenant be renewed and shall in accordance with the Mineral Concession Rule, 1960 applicable (names of minerals) on the day next following the expiration of the term hereby granted.

(3) **Preferential right of the licensee/licensees for obtaining mining lease**:- On or before the determination of the license or any renewal thereof, the licensee/licensees shall have a preferential right for obtaining a mining lease in respect of whole or part of that land over any other person, provided that the State Government is satisfied that the licensee/licensees has/have not committed any breach of the terms and conditions of the prospecting license, undertaken prospecting operations to establish mineral resources in such land and is otherwise a fit person for being granted the mining lease.

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(3-A) If an application for renewal of the prospecting license made in accordance with the rules is not disposed of by State Government before the expiry of the license shall be deemed to have been renewed for a period not exceeding the period prescribed for the renewal of prospecting license under sub-section (2) of Section 7 of the Act, or the period for which an application is made, whichever is less.

(4) **Extension of period of prospecting license** :- If the licensee/licensees before the determination of this license or of any renewal thereof applies/apply for the grant of a mining lease over the whole or any part of the said lands the period of this license shall be further extended over that part of the said lands until his application for mining lease is disposed of or deemed to have been refused under sub-rule (1) of sub-rule (3) as the case may be of Rule 24 of the Mineral Concession Rules, 1960, or any other law in force. No fees shall be payable in respect of any period so extended.

(5) **Refund of deposit** :- On such date within six calendar months after the determination of this license or any renewal thereof, as the State Government shall elect after compliance by the licensee/licensees of Rule 16 of the Mineral

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For Nav Bharat Fuse Co.Ltd.

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Concession Rules, 1960 the amount then remaining in deposit with the State Government and not required to be applied to any of the purpose in Part III of these presents mentioned, shall be refunded to the licensee/licensees or if the licensee/licensees shall have obtained a mining lease over the said lands or any portion thereof, be retained at the credit of the licensee/licensees on account of the fees, rents and royalties to become payable under such lease, the amount shall in no case carry any interest whatsoever.

PART V

General Pvovisisons

It is lastly agree as follows :-

(1) **Acquisition of land and compensation thereof** :- If after the receipt of an offer or compensation for any damage which is likely to arise from the proposed operation of the licensee/licensees, the occupier of the surface of any part of the said lands shall refuse his consent to the exercise of the rights and powers reserved to the State Government and shall deposit with it the amount offered as compensation and if the State Government is satisfied and the licensee/licensees shall have deposited with it such further amount as the State Government may consider reasonable, the State Government shall order the occupations as may be necessary for the purpose of the license. In assessing the amount of such compensation the State Government shall be the principle of the Land Acquisition Act.

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(2) **Delay in fulfillment of the terms of license due to force majeure** :- Failure on the part of the licensee/licensees to fulfill any of the terms and conditions of this license shall not give the State Government any claim against him/them or be deemed a breach of the license in so far as such failed is considered by the State Government to arise from force majeure. If the fulfillment of the licensee/licensees of any of the terms and conditions of this license be delayed from force majeure the period of such delay shall be added of the period fixed by this license.

The expression 'force majeure' means act of God, war, insurrection, riot, civil commotion, strike, tide, tidal wave, storm, flood, lightening, explosion, fire, earthquake and any other happening which the licensee/licensees could not reasonably prevent or control.

(3) **Service of notices** :- Every notice required to be given to the licensee/licensees shall be given in writing to such person as the licensee/licensees may appoint for the purpose of receiving such notices or if no such appointment is made then the notices shall be sent to the licensee/licensees by registered post addressed to him/them at the address shown in his/their application for the license or at such other address in India as he/they designate from time to time, and every such service shall be deemed to be proper and valid service upon the licensee/licensees and shall not be questioned or challenged by him.

(4) **Discovery of new minerals** :- The licensees shall report to the State Government the discovery of any mineral not specified in the license within a

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For,Nav Bharat Fuse Co.Ltd.

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period of sixty days from the date of such discovery and shall not undertak any prospecting operations in respect of such mineral unless such mineral included in the license.

(5) Immunity of State Government from liability to pay compensation :- In any event the order of the State Government are revised, reviewed cancelled by the Central Government in pursuance of proceedings und Chapter VII of the Mineral Concession Rules 1960, the licensee/licensees sha not be entitled to compensation for any loss sustained by th licensee/licensees in exercise of the powers and privileges upon him/them b these presents.

(6) The license deed is executed at the Capital of the Sate of Kanker district c the State of Chhattisgarh and subject to the provision of Article 226 of th Constitution of India it is hereby agreed upon by the licensee and the Stat Government that in the event of any dispute in relation to the area unde prospecting license, conditions of the license deed and in respect of al matters touching the relationship of the license and the State Governmen suits or petitions shall be filed that civil court at Kanker and it is hereby expressly agreed that neither party shall file a suit or appeal bring any action at any place other thank the Courts named above.

IN WITNESS WHEREOF these presents have been executed in the manner hereunder appearing the days and year first above written.

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For Nav Bharat Fuse Co.Ltd.

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SCHEDULE – A

The Land covered by the license

(Here insert the description of lands with area, boundaries, names of District, Sub Division, Thana-etc and cadastral survey number if any in case a map is attached, refer the map in the description to be inserted)

Location	-	Rasooli
Compartment Nos.	-	338 and 339 – 400 HC (map enclosed)
District	-	Kanker
Sub Division	-	Bhanupratappur
Village	-	Rasooli, Forest Range : Dewan Kanalal, Forest Div : Bhanupratappur (East)

SCHEDULE – B

PROPSECTING FEE

Authorised Signatory

For,Nav Bharat Fuse Co.Ltd

(Here specify the amount of the prospecting fee and the manner and time payment)

1. Security Deposit ₹. 25000/- वन मंडल 330/47 दिनांक 09.6.2006
2. Prospecting Fee ₹. 1100/- क्र.क्र. 330/48 दिनांक 09.6.2006

SCHEDULE – C

ROYALTY

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1) Rate of royalty on mineral shall be in accordance with the Second Schedule of the Act.

2) a) Here insert the mode of arriving at sale prices at pits mouth of mineral/minerals ..... As per Rules.

b) The manner and time of payment of royalty ..... As per Rules.

II. In Part IV of form F in paragraph (1) for the words – holding a Certificate of Approval & Income Tax clearance Certificate on payments to the State Government of a fee of rupees One Hundred, the words "who has filed an affidavit stating that he has filed up to date income tax on the basis of self assessment as provided in the Income Tax assessed on him and paid the income tax on the basis of self assessment as provided in the Income Tax Act, 1961 (43 of 1961) on payment of Five Hundred Rupees, shall be substituted".

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THE SCHEDULE ABOVE REFERRED TO DESCRIPTION OF LANDS

Name of Village	:	Rasoli,
Name of Forest Ranges	:	Durgukondal
Name of Forest Division	:	Bhanupratappur
Kh. No. / Compartment No.	:	338 and 339
Area in Acres/Hectares	:	220 Hect.

कलेक्टर
धमतरी (छत्तीसगढ़)

PC No. :

R.I.C.
धमतरी नागपुर

Tahsil भानुप्रतापपुर

सहायक कलेक्टर
धमतरी (छत्तीसगढ़)

अनुमोदित
APPROVED

Witness :-

1. [signature]
[illegible]

2. [signature]
(P.M. Nayak)
A.G. 2

Authorised Signatory
For, Nav Bharat Fuse Co. Ltd.

[signature]
Arvind Kumar Singh
RQP/NGP/225/2000/A

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आज तारीख 23/8/2006 को
अतिरिक्त पुस्तक क्रमांक एक खण्ड 01
के पृष्ठ 22 से 26 पर क्रमांक 07
होकर पंजीयित किया गया।

उप-पंजीयक,
(मा. पुर)

[illegible] शुल्क	100-00
[illegible] शुल्क	10-00
[illegible] शुल्क	5-00
नकली शुल्क	10-00
अन्य शुल्क	—
	— 125-00

(एक सौ पच्चीस रुपये मात्र)

स० उप पंजीयक
मानुप्रतापपुर

टीप/- इस डस्तावेज में किसी प्रकार का काट छांट नहीं है।

उप-पंजीयक,
(मा. पुर)

छत्तीसगढ़ CHHATTISGARH 00AA 73

(सक्षम श्री मानुनोदरी महोदय कांकेर, जिला-कांकेर, छ.ग.)

शपथकर्ता :-गजपति सिंह पिता स्व. कप्तान सिंह मैनेजर (प्रकल्प) मेसर्स नवभारत कच्चा कंपनी तेलीबाँधारार रायपुर, जिला-रायपुर (छ.ग.)

NOTARY GOVT. OF INDIA

अनुमोदित APPROVED

शपथ-पत्र

मैं उपरोक्त शपथकर्तासत्य निष्ठा से शपथ पूर्वक निम्न ब करता हूँ कि :-

(1)-यह कि मैं डवलपमेन्ट नवभारत कच्चा कंपनी तेली बाँधा रायपुर में मैनेजर के पद पर दिनाँक 14-10-2005 से कार्यरत हूँ।

(2)-यह कि मुझे कंपनी के व्यवहार की गई वाउचर ग्राफ एडवान्सों एवं रेकवरी 5-3-2006 के व्यवहार पूर्वेक्षण सुविधा हेतु अधिकृत किया गया है।

(3)-यह कि उक्तशपथ का शपथ पत्र प्रस्तुत कर रहा हूँ।

शपथकर्ता

//सत्यापन//

मैं उपरोक्त शपथकर्ता सत्य निष्ठा से यह सत्यापित करता हूँ कि शपथ पत्र की मेरे समक्ष की गई वाचकारा सही एवं सत्य है और मेरे द्वारा दिनाँक 11-8-2006 को स्थान कांकेर में की-गई कोई भी छिपाव कर सत्यापित किया हूँ।

Arun Kumar Sharma
Notary Public
Distt. Kanker (C.G.)
11-8-06

सत्यापनकर्ता

Arvind Kumar Singh
RQP/NGP/225/2000/A

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11 1 AUG 2006

शपथपत्र

(1) [illegible]

राजेन्द्र कुमार शाह
[illegible]
[illegible]

लिखा

[illegible]

ANNEXURE-9

NAVBHARAT FUSE CO.LTD.

Steel Division

Corp. Off. : Navbharat Udyog Bhawan, Ring Road No.-1, P.O. Ravigram, Raipur (C.G.)
Phone : (0771) 4011586-89, Fax : (0771) 4011585
e-mail : info@navbharat.org

ISO 9001 REGISTERED
MGMT. SYS. RvA C024
DNV Certification B.V., The Netherlands

Dt 7/2/2007

[redacted]

To
The Regional Controller
I B M Nagpur

Subject : Prospecting Report of Rasoli Iron ore deposit of Tah- Dhamtari Distt Raipur, Distt Rajnandgaon (C.G.)

Dear Sir,

Please find enclosed three (3) Nos. of the Prospecting Report, prepared by Geo Tech Analytical Ltd (C D S) of Rasoli iron ore deposit, Dhaga Kondal forest [redacted] Range, Comprising area [redacted] 339 over 220 Hz area in Tah. Dhamtari Distt Raipur Distt Rajnandgaon Chhattisgarh for your kind information please.

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Thanking you

Yours faithfully,
For Navbharat Fuse Co.
(G. P. Singh)
Dev. Manager
For Navbharat Fuse Co.
Raipur

Rec'd Dated 8-2-2007

Arvind Kumar Singh
IBM/NGP/225/2000/A

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REPORT

ON

DETAILED GEOLOGICAL EXPLORATION

AT

NARGAON/RASULI IRON ORE DEPOSIT

BHANUPRATAPPUR TEHSIL,

DISTRICT KANKER, CHHATTISGARH

अनुमोदित
APPROVED

For

M/s NAVBHARAT FUEL CO. LTD.

-Steel Division-

Navbharat Udyog Bhawan

Ring Road No. 1, P.O. Rawgaon

Raipur (Chhatti-garh)

Prepared by

CGS
Geotech-India
Pvt. Ltd.

57, PANCHDEEP NAGAR
WARDHA ROAD
NAGPUR- 440025
MAHARASHTRA

JULY, 2006

Arvind Kumar Singh
RQP/NGP/225/2000/A

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THIS DOCUMENT SHOULD BE TREATED AS CONFIDENTIAL AND MUST NOT BE REPRODUCED, COPIED, LOANED OR DISPOSED DIRECTLY OR INDIRECTLY NOR USED FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT IS SPECIALLY FURNISHED WITHOUT THE PRIOR WRITTEN CONSENT OF ***M/s CDS GEOTECH-INDIA PVT. LTD.,*** NAGPUR, INDIA.

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ACKNOWLEDGEMENT

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WE EXPRESS OUR SINCERE GRATITUDE TO THE OFFICIALS OF M/S NAVBHARAT FUSE CO. LTD, RAIPUR, CHHATTISGARH, FOR THEIR IMMENSE ASSISTANCE AND CO-OPERATION EXTENDED DURING THE COURSE OF EXPLORATION AND DISCUSSION, BUT FOR WHICH THIS REPORT COULD NOT HAVE BEEN PREPARED SUCCESSFULLY.

Ajay Kumar Singh
RQP/NGP/225/2008A

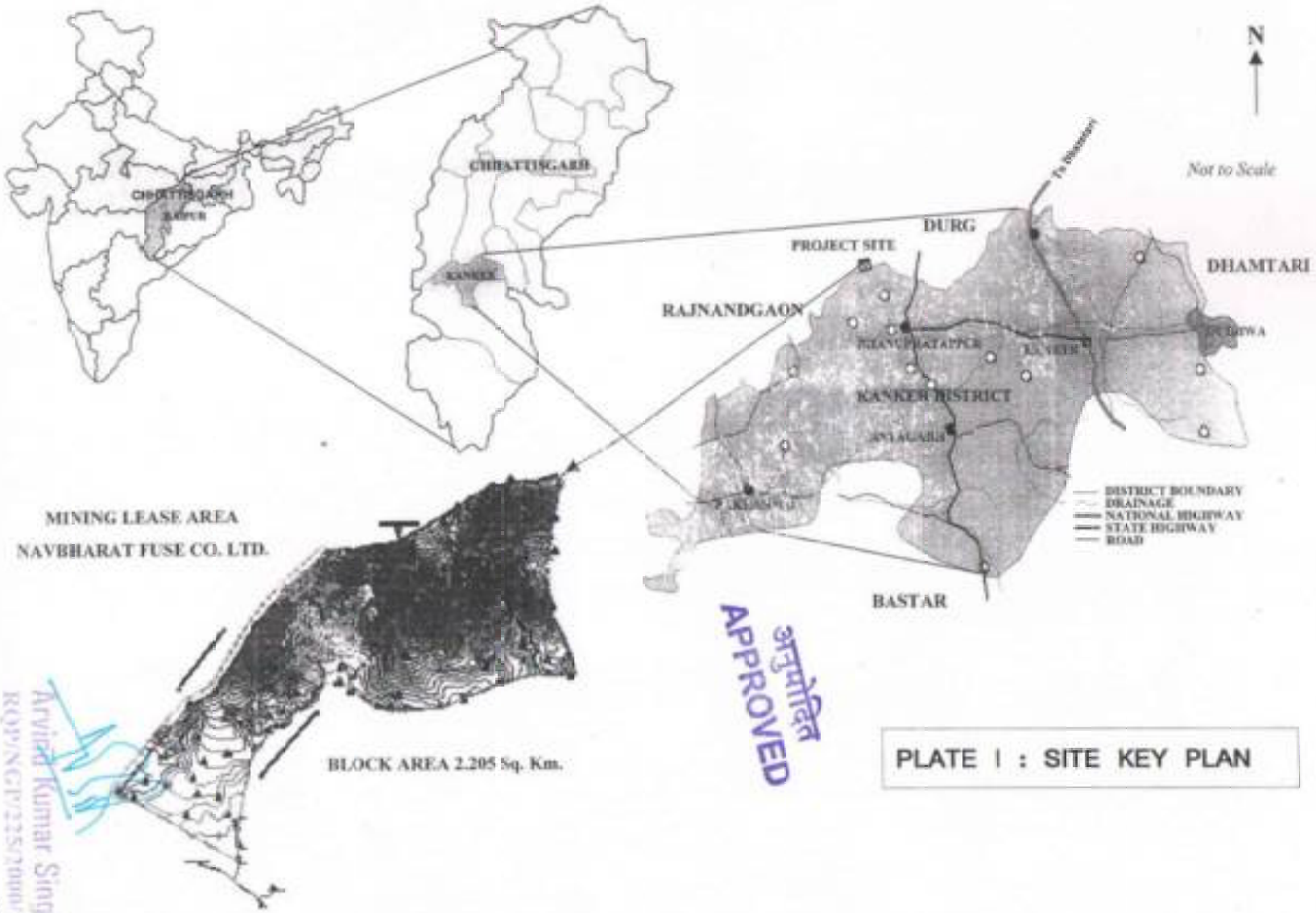

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PLATE I : SITE KEY PLAN

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LIST OF ANNEXURES

S.No.	ANNEXURE	PARTICULARS
1.	I	DETAILS OF RESERVE ESTIMATES BY CROSS SECTION METHOD
2.	II	DETAILS OF RESERVE ESTIMATES OF FLOAT ORE

LIST OF PLATES

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S.No.	PLATE DETAILS	PLATE NO.
1	SITE KEY PLAN	I
2	TOPOGRAPHICAL PLAN	II
3	SURFACE GEOLOGICAL PLAN	III
4	LITHOLOGS OF BOREHOLES	IV
5	GEOLOGICAL CROSS SECTIONS	V

Arvind Kumar Singh
RQP/NGP/225/2008/A

EXECUTIVE SUMMARY REPORT

ON

DETAILED GEOLOGICAL EXPLORATION OF NARGAON /RASAULI IRON ORE DEPOSIT IN BHANUPRATAPPUR TEHSIL OF KANKER DISTRICT, CHHATTISGARH

FOR

M/S NAVBHARAT FUSE CO. LTD (Steel Division)

Navbharat Udyog Bhawan, Ring Road No. 1

P. O. Ravigram , Raipur (Chhattisgarh)

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Jan ' 2007

Prepared By

CDS

CDS GEOTECH - INDIA PVT. LTD.
51, Panchdeep Nagar
Wardha Road
Nagpur - 440025

Arvind Kumar Singh
RQP/NGP/225/2000/A

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LOCATION AND ACCESSIBILITY

The Rasuli iron ore deposit named after prominent revenue village Rasuli in Bhanupratappur tehsil, Kanker district of Chhattisgarh falls within Latitude 80° 55' 15.6" to 80° 56' 45" and Longitude 20° 25' 26" to 20° 26' 27.8" and is covered by Survey of India Toposheet No. 64 D/15. The iron ore deposit lies adjacent to the iron ore mines of M/s Raipur Alloys & Steel Ltd. The area can be approached from Bhanupratappur at a distance of about 12 km from Bhanupratappur–Damkasa village road. The area is located at a distance of about 120 km from Rajnandgaon railway station, which lies on Howrah – Mumbai Broad gauge line. It is located at a distance of about 100 kms from Raipur and 250 kms from Nagpur.

QUANTAM OF WORK DONE

a. Geological Mapping (Scale: - 1 : 5000)	-	2.20 sq. km
b. Topographical Survey	-	2.20 sq. km.
Bench Mark	-	TBM 2, R. L.- 697.710 m
c. Drilling	-	Total 229 mts.
No. of Boreholes	-	6
d. Sampling	-	38 Nos.

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PHYSIOGRAPHY AND DRAINAGE

The area in general is hilly and forms a part of the southernmost hilly terrain of Khadgaon protected forest. The Rasuli hill range comprising the area presently surveyed is a steeply sloping hill at the top broadly along E-W direction. The ground rises towards north and the overall slope of the area is towards south. The difference in elevation within the lease area is 320 m. The area is generally covered with forest and devoid of any cultivated land.

GEOLOGY OF THE AREA

Geologically, the area forms the western continuation of the iron ore formation exposed on the well known Dalli-Rajhara iron ore deposit, located at a distance of about 15 kms from the lease area. The iron ore deposit occurs as smaller lenticular bodies mostly covered by soil & scree. The lenticular bodies are seen on the lower slopes on the southern side of the hill. High grade iron ore float is seen on the slopes. The general strike of the iron orebodies is along E–W direction with steep dip of 70 to 75° due North and NNW.

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PROSPECTING AND EXPLORATION

The Geological Survey of India (GSI) explored the deposit in the past by means of diamond core drilling. However, no data on the exploration carried out is available with the present lessee. Prospecting of the area comprises of topographical survey, geological mapping and diamond core drilling.

a) Topographical Survey

Contour surveying over an area of 2.00 sq. km. has been carried out using Total Station Theodolite and a topographical plan on a scale of 1:5000 with 5 m contour interval has been prepared.

b) Geological Mapping

Geological mapping of the area has been carried out and a geological plan for the entire lease area on a scale of 1:5000 has been prepared using the topographical plan as the base. (Refer Plate I)

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c) Diamond Core Drilling

Drilling of six boreholes with a total drilling of 229 m has been carried out using NX size diamond bit maintaining an overall core recovery of 90% and above in ore-zone and 70% and above in non-mineralized portions. In all, 38 samples have been prepared and chemically analysed.

d) Logging, Sampling and Analysis

The cores generated by drilling of boreholes in the area were logged by Geologist of CDS Geotech-India Pvt. Ltd. During logging, driller's logs were first examined for studying the core recovery. The core recovery in each run was measured. Each run was logged carefully and separately. Individual core samples were drawn by splitting the core into two equal halves. One half of the core was retained in the box and other half was crushed, coned and quartered by applying grain size/quantity principle for forming representative sample. The samples drawn from six boreholes were chemically analysed.

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e) *Processing and Evaluation of Exploratory Data*

The data generated from drilling of 6 boreholes were processed and evaluated conventionally. Summarised litholgs including results of chemical analysis of samples drawn from six boreholes drilled are given in Annexure – I.

RESERVES AND AVERAGE GRADE OF IRON ORE

Based on the data generated from present exploration by drilling, reserves and average grade of iron ore have been estimated by cross - section method. Reserves of float ore have also been estimated for the area. The average grade of ore has been computed on the basis of analytical reports of samples drawn from boreholes. The reserves of iron ore estimated have been classified under 'proved' and 'probable' categories depending on the degree of certainty. Reserves of iron ore and float ore estimated under 'proved' and 'probable' categories are given below: -

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SUMMARY OF RECOVERABLE RESERVES OF IRON ORE

(Reserves in million tonnes)

Category of reserves	Reserves of reef ore	Reserves of float ore	Total
Proved	4.08	-	4.08
Probable	1.61	0.38	1.99
Total	**5.69**	**0.38**	**6.07**

S.C.Ghoshal

(S. C. GHOSHAL)
Executive Director
CDS Geotech – India Pvt. Ltd.
51, Panchdeep Nagar
Wardha Road Nagpur – 440025

Arvind Kumar Singh
IBQP/NGP/225/2000/A

CDS

ANNEXURE - I

SUMMARISED LITHOLOGS OF BOREHOLES DRILLED BY CDS GEOTECH – INDIA

S. N.	BOREHOLE NO.	R. L. IN METERS	LITHOLOGICAL DISCRIPTION			AVERAGE GRADE		
			FROM	TO	DISCRIPTION	Fe %	SiO_2 %	P %
1	2	3	4	5	6	7	8	9
1.	B. H. NO. 1	537.00	0.00	2.00	Top soil	-	-	-
			2.00	14.00	Laminated iron ore	62.40	4.70	0.08
			14.00	16.00	Banded Hematite Quartzite	-	-	-
			16.00	20.00	Hard massive iron ore	63.60	4.20	0.09
			20.00	26.00	Shaly iron ore with pieces of laminated iron ore	59.00	6.70	-
			26.00	32.00	Laminated iron ore	61.30	5.70	0.08
			32.00	34.00	Hard massive iron ore	64.20	4.20	-

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			34.00	38.00	Laminated iron ore	61.40	5.20	0.09
			38.00	40.00	Shale	-	-	-
2.	B. H. NO. 2	572.620	0.00	2.00	Laminated iron ore	60.40	3.70	0.09
			2.00	3.00	Banded Hematite Quartzite	-	-	-
			3.00	6.00	Shaly iron ore	59.50	-	-
			6.00	8.00	Hard massive iron ore	64.30	4.30	0.08
			8.00	14.00	Laminated iron ore	60.20	4.70	0.07
			14.00	17.00	Shaly iron ore	-	-	-
			17.00	20.00	Laminated iron ore	61.20	5.50	-
			20.00	22.00	Shaly iron ore	-	-	-
			22.00	26.00	Hard massive iron ore	64.80	4.50	-

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Arvind Kumar Singh
Manager(Geology)

			26.00	32.00	Laminated iron ore	60.80	4.80	0.04
			32.00	34.00	Shaly iron ore	-	-	-
			34.00	36.00	Laminated iron ore	61.40	-	-
			36.00	38.00	Banded Hematite Quartzite	-	-	-
3.	B. H. NO. 3	588.750	0.00	2.00	Top soil	-	-	-
			2.00	6.00	Hard massive iron ore	64.20	4.50	0.08
			6.00	16.00	Laminated iron ore	61.60	3.80	-
			16.00	20.00	Shaly iron ore	-	-	-
			20.00	24.00	Hard massive iron ore	63.70	4.80	0.07
			24.00	30.00	Laminated iron ore	61.70	6.50	-

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			30.00	32.00	Shale	-	-	-
			32.00	36.00	Hard massive iron ore	64.30	4.80	0.09
			36.00	38.00	Laminated iron ore	61.30	5.40	-
			38.00	40.00	Banded Hematite Quartzite	-	-	-
4.	B. H. NO. 4	532.580	0.00	1.00	Top soil	-	-	-
			1.00	6.00	Laminated iron ore	60.40	3.70	0.09
			6.00	8.00	Banded Hematite Quartzite	-	-	-
			8.00	12.00	Laminated iron ore	61.80	4.60	0.07
			12.00	16.00	Hard massive iron ore	64.50	2.80	0.08

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			16.00	19.00	Shaly iron ore	-	-	-
			19.00	24.00	Laminated iron ore	62.40	4.80	-
			24.00	28.00	Shaly iron ore	58.50	5.80	-
			28.00	30.00	Banded Hematite Quartzite	-	-	-
			30.00	35.00	Laminated iron ore	60.70	5.30	0.08
5.	B. H. NO. 5	538.500	0.00	1.00	Top soil	-	-	-
			1.00	6.00	Hard massive iron ore	63.00	3.50	0.08
			6.00	8.00	Banded Hematite Quartzite	-	-	-
			8.00	12.00	Hard massive iron ore	63.90	3.40	0.09
			12.00	14.00	Laminated iron ore	61.70	4.50	-

			14.00	16.00	Shaly iron ore			
			16.00	26.00	Laminated iron ore	62.40	5.40	0.08
			26.00	30.00	Shaly iron ore with pieces of laminated iron ore	60.50	-	-
			30.00	34.00	Laminated iron ore	62.10	4.60	-
			34.00	36.00	Banded Hematite Quartzite	-	-	-
6.	B. H. NO. 6	549.500	0.00	4.00	Hard massive iron ore	63.90	4.10	0.08
			4.00	6.00	Banded Hematite Quartzite	-	-	-
			6.00	8.00	Laminated iron ore	61.70	3.80	0.09

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			8.00	10.00	Quartzite	-	-	-
			10.00	18.00	Laminated iron ore	61.40	5.70	-
			18.00	22.00	Shaly iron ore	-	-	-
			22.00	30.00	Laminated iron ore	62.50	5.41	0.08
			30.00	34.00	Laminated iron ore with shale pieces	58.50	-	-
			34.00	38.00	Laminated iron ore	61.80	5.40	-
			38.00	40.00	Banded Hematite Quartzite	-	-	-

Note: - Locations of boreholes are shown on Surface Geological Plan (Refer Plate I).

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ROPNGP/2252/2011

011

Point No. 7

1. **Name of Prospecting Agency**

   CDS Geotech – India Pvt. Ltd
   51, Panchdeep Nagar
   Wardha Road
   Nagpur – 440025

2. **Name of Geologist preparing the report**

   Shri S. C. Ghoshal
   Former Suptdng Mining Geologist &
   Head of Technical Consultancy Division
   Indian Bureau of Mines
   Nagpur.

3. **Qualification of Geologist**

   M. Sc. (Applied Geology)

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!!!

NAVBHARAT FUSE CO. LTD.

Steel Division

Corp. Off.: Navbharat Udyog Bhawan, Ring Road No.1, P.O. Ravigram, Raipur (C.G.)
Phone : 0771-5011566-569, Fax : 0771-5011565
e-mail: info@navbharat.org Website: www.navbharat.org

ISO 9001 REGISTERED
DNV MGMT. SYS. RvA C024

Dt 14/8/2007

[redacted]

To

Shri M K. Prasher
Regional Controller of Mines
6th floor B. & C. Block
Indira Bhawan Civil Lines
Nagpur 440001

Sub:- Prospecting scheme of Ramtek Iron ore deposit in Kh. 13 Ramtek Tehsil & Dist. Nagpur (C.G.)

Dear Sir,

Kindly refer your letter No CG/KHK/Fe/NGP. Dt 2/3/2007, we are enclosing the Prospecting Scheme as required under Rule 4, 7 & 8 of MCDR, 1958 along detail Prospecting report as required by your office.

We have already Submitted the Prospecting Scheme vide dt 8/2/2007 against that you have given the above mentioned letter.

Thanking you

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Yours faithfully

14/8

(G. P. Singh)
Dev. Manager

Enclosure:-
1) Prospecting Scheme
2) Prospecting report
3) Map 4 Nos.

Received on 16.8.2007
P. N. Sonule
प्रभारी एवं संवितरण अधिकारी (भा. ब्यू.)
Drawing & Disbursing Officer (I. B.)
भारतीय खान ब्यूरो, नागपुर
Indian Bureau of Mines, Nagpur.

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1/2

SCHEME OF PROSPECTING

NARGAON/RASULI IRON ORE DEPOSIT IN BHANUPRATAPPUR TEHSIL OF KANKER DISTRICT (C.G.)

OVER AN AREA OF 2.20 Sq.Km.

NAVABHARAT FUSE CO.LTD.

(STEEL DIVISION)

Navbharat Udyog Bhawan,
Ring Road No.1,
P.O. Ravigram, Raipur (C.G.)

अनुमोदित
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PREPARED BY

SIDDHARTH GEO CONSULTANT

First floor, 621/3,
Ramkund (Samta colony)
Behind Life Worth Hospital, Raipur (C.G.)

Arvind Kumar Singh
RQP/NGP/225/2000/A

SCHEME OF PROSPECTING

NAVABHARAT FUSE CO.LTD.

(STEEL DIVISION)

NARGAON/RASULI IRON ORE DEPOSIT IN BHANUPRATAPPUR TEHSIL OF KANKER DISTRICT (C.G.)
OVER AN AREA OF 2.20 Sq.Km.

In the Rasuli PL area Iron ore deposit is situated between Latitude 80°55'16.6" to 80°56'45"; Longitude 20°25'26" to 20°26'27.8" in Survey of India toposheet No. 64D/15. Covered with forest and forms a part of the southernmost hilly taren of Khadgaon protected forest. This forest area is under the jurisdiction of Bhanupratappur forest division in Kanker district. In view of the area being a part of a reserve forest it attracts the provisions of Forest (Conservation) Act, 1980, as such, in addition to the conditions relating to the prospecting operation contained in the Prospecting License, additional conditions and restrictions on the nature of the prospecting operation have been imposed by the forest authorities.

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The order relating to these condition has been appended as **annexure I**. The main feature of this condition is that breaking of ground in any manner and cutting of trees has been strictly prohibited. Drilling is the only operation permitted to be carried out for obtaining subsurface exploration by maximum 8 boreholes.

Prepared By
SIDDHARTH GEO CONSULTANT, RAIPUR

Arvind Kumar Singh
RQP/NGP/225/2000/A

In view of the restriction imposed by the forest authorities, the prospecting operation have been restricted to –

- Topographical survey over an area of 2.20 sq.km. by tracumetry method using Total station theodolite which can be carried out without cutting any trees by suitably adjusting ground station, to bring out the topographical surface plan of the area on a scale of 1:5000/1:2000 with 5 mt. contour interval .
- Geological mapping of the area on a scale 1:5000/1:2000 on the topographical plan prepared as above so as to bring out the detailed geological picture with delineation of iron ore bodies.
- Drilling of boreholes by diamond core drilling machine, so as to recover the core/sludge to determine the depth continuation and grade of iron ore in various ore bodies.
- Preparation of core and sludge samples using standard practice and analysis there of their chemical grade.
- Collection of representative surface samples by chipping on fresh surface of the exposed insitu ore as well as float ore and their analysis to determine the chemical grade.

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Details Of the Prospecting Operation carried out:

Topographic survey:

Topographic survey of the PL area was carried out by tracumetry method using Total station theodolite. As the area forms apart of reserve forest, it attracts the provisions of Forest

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(Conservation) Act, 1980, restricting any damage to the ground and growth of vegetation, hence the tracumetry method is most suitable.

For commencement of survey, the level was carried form a triangulation point. 734.914 MSL, which is available on the peak of the hill due north-east corner of area. Large numbers of triangulation station will be taken in view of the density of the vegetation. Triangulation stations established during the survey have been marked on the ground by wooden pegs suitable numbered and also on the nearby trees for future reference. The entire area was accordingly covered with a network of survey lines so as to bring out the configuration on a plan of 1:5000 scales with 5 mt. contour intervals with high degree of accuracy.

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Geological Mapping:

Geological mapping of the PL sanctioned area was carried out by a team of highly experienced geologists associated with Iron ore & having necessary background and acumen for evaluation of iron ore deposit.

Reconnaissance geological traverses were first taken to make a preliminary assessment of the extent, type and grade of iron ore occurring in the area and its Distribution pattern. Detailed geological mapping of the area reveals that the iron ore both insitu and float, is restricted to the top and slope of the hillocks. Greater attention has therefore been paid to the examination of the ground for geological feature for rock exposure; their strike and dip, ore outcrops and spread of float ore etc. Over these part. The geological features were co-related with the triangulation stations established by the survey team on

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the ground, and plotted on the topographical survey map on 1:5000/1:2000 scales.

Drilling:

The diamond core drilling is the only method that is permitted by the forest authority to obtain subsurface information in the area. However, even for drilling there is further limitations in the choice of location of born holes as these bore holes could not be located at any such point where cutting of ground would have become necessary for making the path way for skidding of drilling machines. Location of borehole therefore has to be decided very judiciously, so that required subsurface information could be obtained even in the face of these difficulties. Therefore, such deposits that do not make their depth continuation apparent in their exposure were taken up under the drilling program. Care was also taken to see that sufficient drilling is done in the first phase to prove the ore requirement of the first five-year production program. Following this strategy 8 bore holes involving a total drilling depth of approximate 300 mts. Proposed.

Core and Sludge Sampling:

All precautions were taken at the time of drilling to ensure maximum core recovery. For this purpose NX size diamond core drilling bit with double- tube swivel type core barrel was used to prevent washing off of the core by return water. Sludge is also collected for each 2 meter of drilling. The core was split longitudinally into two equal halves and one half was coned. Quartered and powdered to obtain the representative sample for each 2 mt section. In addition to individual core and sludge samples representing 2 mt of drilling thickness. Composite

samples were also prepared for all the boreholes representing the entire thickness of iron ore cut by them. The individual samples were analyzed for four radicals, namely Fe, Sio_2, Al_2O_3, and LOI and the composite samples were analyzed for five radicals Fe, Sio_2, Al_2O_3, P & S.

CORE LOGGING:

Core logging will be don by the Geologist as drilling operation progress. After examine the result of foot hill core drills further closing of boreholes by putting intermediate holes will be decided.

Surface sample:

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Surface sample of iron ore were collected by chip sampling method form the outcrops as well as large slope boulders. Small float boulders and pebbles were taken as a whole and coned, quartered and crushed for obtaining the representative samples. Chips were collected from only the fresh portion of surface after removing the weathered mantle form the exposed surface. The density of sampling was kept high for such bodies that were not covered under drilling program. The chip samples were taken continuously from the top downwards to the limit of ore exposures in the nala and gullies that cut across this steeply dipping ore body. This was done so that a fairly reliable picture of the grade of the iron ore available at different levels in this body is obtained.

REPORT PREPARATION:

After preparing topographic and geological plan, core and surface samples result and other relevant data, final prospecting report will be prepared.

(Geologist)

For, SIDDHARTH GEO CONSULTANTS

PARTNER

Arvind Kumar Singh
RQP/NGP/225/2000/A

FORM A
NOTICE OF COMMENCEMENT OF PROSPECTING OPERATIONS
(See rule 7)
IMPORTANT

This form, duly filled in must reach the concerned authorities within fifteen days of the commencement of prospecting operations.

To

1.	The controller General, Indian Bureau of Mines,	2nd Floor, Indira Bhawan, Civil Lines, Nagpur PIN-440001
*2.	The Controller of Mines, Indian Bureau of Mines,	2nd Floor,Indira Bhawan,Civil Lines, Nagpur ,PIN-440001
*3.	The Regional Controller of Mines, Indian Bureau of Mines,	6th Floor,Indira Bhawan,Civil Lines, Nagpur PIN. 440001
4.	State Government concerned.	Director, Directorate Geology & Mining Sonakhan, Bhawan, Ring road No.1, Raipur (C.G.)
5.	Deputy Secretary , Govt. of CG	DKS, Bhawan, Mantralaya , Raipur

1. Name of the mineral or minerals for which Prospecting license has been granted. — Iron Ore
2. Name and address of the licensee. — M/s Navbharat Fuse Co. Ltd. Steel Division, Navbharat Udyog Bhavan Ring road No-1, Post Ravi Gram RAIPUR (CG)

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3. In case the licensee is a Company or Partnership Firm or Co-operative, please indicate. — NA

(i) Name and address of the Director in-Charge — NA

(ii) Address of the registered Office — NA

4. Particulars of Prospecting License (PL):
   (i) Date of execution — 20.11.2006
   (ii) Period — 2 years. From 20.11.2006 to 05.01.2007
   (iii) Area under license — 220 Hect.
5. Location of the Prospecting Licensed Area:
   (i) Topo Sheet Number — 64D/15
   (ii) Cadastral Survey or Khasra Number — 338 & 339
   (iii)Village — Rasuli

Arvind Kumar Singh
RQP/NGP/225/2000/A

(iv) (a) Post Office	Durg-Kondal
(b) Police Station	Bhanupratappur
(v) (a) Taluka	Bhanupratappur
(b) District	Kanker
(c) State	Chhattisgarh
(vi) (a) Nearest Railway Station	Dallirajhara
(b) The distance there from	72 km
(vii)(a) Nearest Rest House/ Dak Bungalow	Bhanupratappur
(b) Its distance from	35 Km.
(1) The Railway Station (kilometers)	
(2) The prospecting area (kilometers)	2.20 Km.

6. Particulars of Geologist or Mining Engineer Employed for the Prospecting Licensed area: **CDS Geotech-India Pvt.Ltd.**
51,Panchdeep Nagar.
Wardha Raod, Nagpur - 440025

(i) Name and address (Their Geologist)

S.S.Shenwai
Geologist
51,Panchdeep Nagar.
Wardha Raod, Nagpur - 440025

(ii) Qualifications — M.Sc.(Geology)

(iii) Date of appointment (Contact) — 02 January 2006

Nature of appointment [Please tick (√) mark one of the boxes whichever is applicable] — Whole time □ Part time √

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7. Date of commencement of prospecting operations:

Place: Raipur
Date: 03 Nov. 2006

Signature:

Name in full: G.P.Singh
Designation : Development Manager

Arvind Kumar Singh
RQP/NGP/225/2000/A

COS

ANNEXURE-I

DETAILS OF RESERVE ESTIMATES BY CROSS SECTION METHOD

SECTION NO.	ORE BODY NO.	AREA (m^2)	STRIKE INFLUENCE (m)	VOLUME (m^3)	BULK DENSITY	IN-SITU RESERVE IN TONNES	RECOVERY %	RECOVERABLE RESERVE IN TONNES	CATEGORY OF RESERVES
1	2	3	4	5	6	7	8	9	10
AA'	D	2,760	91.5	2,52,540	3	7,57,620	80	6,06,096	PROVED
	D	1,000	91.5	91,500	3	2,74,500	80	2,19,600	PROBABLE
BB'	E	2,980	81.5	2,51,020	3	7,53,060	80	6,02,448	PROVED
	E	1,160	81.5	94,540	3	2,83,620	80	2,26,896	PROBABLE
CC'	C	4,600	75.0	3,45,000	3	10,35,000	80	8,28,000	PROVED
	C	1,920	75.0	1,44,000	3	4,32,000	80	3,45,600	PROBABLE
DD'	A	5,480	76.5	4,19,220	3	12,57,660	80	10,06,128	PROVED
	A	1,800	76.5	1,37,700	3	4,13,100	80	3,30,480	PROBABLE
EE'	B	2,920	68.5	2,00,020	3	6,00,060	80	4,80,048	PROVED
	B	1,760	68.5	1,20,560	3	3,61,680	80	2,89,344	PROBABLE
FF'	F	3,800	61.5	2,33,700	3	7,01,100	80	5,60,880	PROVED
	F	1,380	61.5	84,870	3	2,54,610	80	2,03,688	PROBABLE

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ANNEXURE-10

CDS

ANNEXURE-II

DETAILS OF RESERVE ESTIMATES OF FLOAT ORE

S.NO.	FLOAT ORE ZONE	AREA (m^2)	DEPTH ASSUMED (m)	VOLUME (m^3)	RECOVERY OF FLOAT ORE (%)	EFFECTIVE VOLUME OF FLOAT ORE (m^3)	BULK DENSITY	RESERVES IN TONNES
1	2	3	4	5	6	7	8	9
1	G	23000	2.50	57500	25	14375.00	2.8	40250.0
2	H	21500	2.50	53750	25	13437.50	2.8	37625.0
3	I	91500	2.50	228750	25	57187.50	2.8	160125.0
4	J	56750	2.50	141875	25	35468.75	2.8	99312.5
5	K	24750	2.50	61875	25	15468.75	2.8	43312.5

TOTAL: 380625.00 TONNES
0.381 MILLION TONNES

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ANNEXURE-11

कार्यालय वनमंडलाधिकारी पूर्व भानुप्रतापपुर वनमंडल भानुप्रतापपुर, जिला - उत्तर बस्तर कांकेर, छत्तीसगढ़

क्रमांक/मा0चि0/ 4389 भानुप्रतापपुर, दिनांक 17-08-06

प्रति,

कलेक्टर
(खनिज शाखा)
जिला – उत्तर बस्तर कांकेर

विषय :– जिला – कांकेर तहसील – भानुप्रतापपुर के ग्राम – रसूली के वन कम्पार्टमेंट नम्बर 338 तथा 339 के रकबा 400 है. पर लौह अयस्क खनिज का पूर्वेक्षण अनुज्ञप्ति स्वीकृत आवेदन पत्र।

संदर्भ :– आपका पत्र क्रमांक /710 कांकेर दिनांक 03.08.2006 ।

***

संदर्भित पत्र के तारतम्य में निवेदन है कि मे0/नवभारत फ्यूज कम्पनी रायपुर को भारत सरकार वन एवं पर्यावरण मंत्रालय के पत्र क्रमांक एफ नं0 8–36/2005 – एफ.सी. दिनांक 23 जून 2005 द्वारा वन संरक्षण अधिनियम 1980 के सेक्शन – 2 के प्रावधान के तहत 02 वर्षों के लिए लौह अयस्क के पूर्वेक्षण की औपचारिक अनुमति प्रदान की गई है।

अतः भारत सरकार वन एवं पर्यावरण मंत्रालय द्वारा जारी शर्तों के तहत लौह अयस्क के पूर्वेक्षण हेतु इस कार्यालय द्वारा सहमति व्यक्त की जाती है ।

संलग्न :– उपरोक्तानुसार ।

अनुमोदित
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वन मण्डलाधिकारी
पूर्व भानुप्रतापपुर वनमण्डल
भानुप्रतापपुर

पृ0क0/मा0चि0/
प्रतिलिपि :–

भानुप्रतापपुर, दिनांक.....

वन संरक्षक कांकेर वृत्त कांकेर को संदर्भित पत्र के तारतम्य में सूचनार्थ सम्प्रेषित ।

वन मण्डलाधिकारी
पूर्व भानुप्रतापपुर वनमण्डल
भानुप्रतापपुर

D:\ROY\Manohara To Collector.doc

Arvind Kumar Singh
RQP/NGP/225/2000/A

STENO

छ.ग.राज्य वन विकास निगम लिमिटेड,

कार्यालय मण्डल प्रबंधक, अंतागढ़ परियोजना मण्डल, भानुप्रतापपुर

जिला - उत्तर बस्तर, कांकेर, (छ.ग.) फोन / फैक्स - 252248

5/1/06

क्रमांक/वविनि/भा.चि. /2006 / 5266 भानुप्रतापपुर, दिनांक 5/1/06 /2006

5/1/06

प्रति,

M/s Navbhart fuse company Ltd.
Raipur.

[redacted]

विषय :- कक्ष क्रमांक 339 में पूर्वेक्षण की अनुमति बावत् ।

संदर्भ :- आपका आवेदन दिनांक 29.12.2005 एवं मुख्य वन संरक्षक,(भू-प्रबंध) छ.ग., रायपुर के पत्र क्रमांक/11/भू-प्रबंध/खनिज/2548, दिनांक 20.9.2005

महोदय,

उपरोक्त विषय में संदर्भित पत्र के परिपेक्ष्य में इस परियोजना मंडल के भानुप्रतापपुर परिक्षेत्र के कक्ष क्रमांक 339 में निम्न शर्तों पर लौह अयस्क के पूर्वेक्षण हेतु अनुमति प्रदान की जाती है ।

1- यह अनुमति दो वर्षों के लिए वैध होगी ।
2- 4 इंज व्यास के कुल 8 बोर होल्स सेम्पल कलेक्शन हेतु ड्रिल किए जायेंगे ।
3- पूर्वेक्षण के दौरान कोई वृक्ष नहीं काटा जायेगा, न ही वृक्षों को कोई नुकसान पहुंचाया जावेगा ।
4- पूर्वेक्षण के दौरान कोई गड्ढा (Pit) अथवा खन्ती (Trench) नहीं खोदी जावेगी ।
5- पूर्वेक्षण के बाद खोदे गये बोर होल्स को आवेदक संस्थान द्वारा भरा जावेगा ।
6- पूर्वेक्षण के लिए दी गई यह अनुमति वन संरक्षण अधिनियम 1980 के अन्तर्गत भूमि व्यपवर्तन स्वीकृत करने के लिए कोई बाध्यता नही होगी ।

उपरोक्त शर्तों का पालन किया जाना सुनिश्चित करें । यदि क्षेत्र भ्रमण के दौरान उपरोक्त शर्तों का उल्लंघन किया जाना पाया जाता है तो अनुमति निरस्त करते हुए नियमानुसार कार्यवाही की जावेगी ।

"सधन्यवाद"

अनुमोदित
APPROVED

भवदीय,

मण्डल प्रबंधक,
अंतागढ़ परियोजना मण्डल,
भानुप्रतापपुर

प्रतिलिपि :-

1- उप प्रबंधक, भानुप्रतापपुर को सूचनार्थ ।
2- परियोजना परिक्षेत्र अधिकारी, भानुप्रतापपुर को सूचनार्थ ।

कृपया अपने क्षेत्र भ्रमण के दौरान उपरोक्त निर्देशों का पालन किया जाना सुनिश्चित करें ।

सही/
मण्डल प्रबंधक,
अंतागढ़ परियोजना मण्डल,
भानुप्रतापपुर

Arvind Kumar Singh
RQP/NGP/225/2000/124

ANNEXURE-12

संचालनालय भौमिकी तथा खनिकर्म, छत्तीसगढ़

सोना खान भवन, रिंग रोड नं. 1, ग्राम पुरेना, पोस्ट रविग्राम रायपुर छत्तीसगढ़-492001
फोन नं. 0771-2422840,44,45, फैक्स 0771-2412841 E.Mail dgmcg@dataone.in

कमांक 194/जन.सू.अधि./नं. क्र. /2009 रायपुर, दिनांक

प्रति,

जन सूचना अधिकारी
संचालनालय भौमिकी तथा खनिकर्म
रायपुर (छ.ग.)

विषय :–अधिनियम के अधिकार अधिनियम 2005 के अन्तर्गत जानकारी प्रदाय हेतु आवेदन ।

संदर्भ :–आपका पत्र पृ.क. 186/ज.सू.अ./न.क/10 दिनांक 2.9.2010

—0—

उपरोक्त संदर्भित विषय में आवेदक मेसर्स नवभारत फयूज कंपनी लि. द्वारा अपेक्षित श्री व्ही.के. सक्सेना, सहायक भौमिकी विद् तथा श्री बी. एस. मंडावी, सहायक खनि अधिकारी द्वारा जिला कांकेर में कंपनी को स्वीकृत पूर्वेक्षण अनुज्ञप्ति का प्रस्तुत जांच प्रतिवेदन की छायाप्रति संलग्न है । सूचना के अधिकार के तहत नियमानुकूल होने पर ही आवेदक को कृपया प्रदाय किया जावे ।

संलग्न: उपरोक्तानुसार

अनुमोदित
APPROVED

संयुक्त संचालक (खनिज प्रशा.)
संचालनालय भौमिकी तथा खनिकर्म
छत्तीसगढ़

6.9.10

सूचना का अधिकार अधिनियम 2005
के तहत प्रदत्त

जन सूचना अधिकारी
संचालनालय भौमिकी तथा खनिकर्म
छत्तीसगढ़ रायपुर

Arvind Kumar Singh
RQP/NGP/225/2000/A 125

चेक लिस्ट (भौमिकीय कार्य हेतु)

पर्यवेक्षक अधिकारियों के लिये

1	अधिकारी का नाम व पद	
2	निरीक्षण का दिनांक	11 - 10 - 2002
3	(अ) यदि क्षेत्र में कार्यालय स्थापित किया गया हो तो पता :– ग्राम तहसील एसटीडी कोड एवं दूरभाष	पोस्ट C/o< जिला मोबाइल नम्बर
	(ब) कार्यरत अधिकारी / कर्मचारी का नाम	
4	टोपोग्राफिकल सर्वेक्षण (Topographical Survey) की स्थिति :– निरीक्षण दिनांक तक कुल टोपो ग्राफिकल सर्वे कार्य (1) कार्य क्षेत्र की स्थिति समतल / पहाड़ी / पहाड़ी वन-क्षेत्र / दुर्गम क्षेत्र (2) ग्रिड लाइनों की संख्या तथा वर्ग कि.मी. / लाइन कि.मी. (3) बोर होल प्वाइंट की स्थिति (4) कन्टूरिंग कार्य एवं आर.एल. की जानकारी (5) Co-ordinates की स्थिति	

5.	क्र.	विवरण	किया गया कार्य	अभियुक्ति
	1.	भौमिकी सर्वेक्षण / मानचित्रण		
	2.	गड्ढाकरण / भालीकरण		
	3.	वेधन – (अ) वेधन यंत्र (ब) वाहनों की संख्या एवं प्रकार (स) वाटर सप्लाई पम्प की स्थिति (द) सर्वे उपकरण एवं उनकी स्थिति		
	4.	नमूनीकरण (अ) सतह से प्राप्त नमूनों की संख्या (ब) वेधन से प्राप्त नमूनों की संख्या (स) अन्य नमूने		
	5.	नमूनों का विश्लेषण / परीक्षण की स्थिति (अ) रासायनिक विश्लेषण (ब) अन्य अध्ययन		

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6	क्षेत्रीय कार्य हेतु व्यय की गई राशि :– (1) मजदूरी (2) अन्य मद में व्यय (3) टीप	1. मजदूरी - 49387000 2. अन्य - 687000.00 3. टीप - 198630.00 योग - 3356417.00
7	पूर्वेक्षण कार्य पर टीप	पर्यवेक्षण (फार्म नं.3)

चेक लिस्ट (खनिज प्रशासन हेतु)

8	एमसीडीआर (MCDR) 1988 के नियम 4 के अनुसार प्रॉस्पेटिंग स्कीम प्रस्तुत की गई है या नहीं	नियम 4 के अनुसार प्रारंभिक स्कीम प्रस्तुत नहीं की गई है।
9	स्कीम आईबीएम (IBM) से अनुमोदन की दिनांक –	स्कीम को अभी तक IBM से अनुमोदित नहीं कराया गया।
10	स्कीम की प्रति प्रदत्त –	नियमानुसार
11	स्कीम में दिये गये विवरण अनुसार कार्य पर टीप बिन्दुवार –	नियमानुसार है।
12	अनुबंध की प्रक्रियाओं के पालन पर बिन्दुवार टीप– (1) (2) (3) (4) (5) (6)	(1) वन विभाग से कार्यानुमति प्राप्त करने हेतु को कार्यालय पत्र क्र. 710 दिनांक 3.8.06 द्वारा पत्र लिखकर वन विभाग को प्रतिलिपी दिया गया। (2) वन विभाग के पत्र क्र. 6284 दिनांक 16.11.06 द्वारा कार्यानुमति प्राप्त। (3) 210 M T खनिज परिवहन की निर्धारित अनुमति प्राप्त किया है। (4) 5 वर्षीय स्कीम के अंतर्गत पूर्ण कार्य किया है।

अनुमोदित
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Arvind Kumar Singh
ROP/NGP/225/2000/A

अनुलग्नक-IV

सूचना का अधिकार अधिनियम 2005

[illegible]

पूर्वेक्षण, डाय एवं ड्राइंग (मे. अम्बालाल मफतलाल डायमे, रायपुर)

मैं/हम अम्बालाल मफतलाल डायमे कम्पनी लि. का पूर्वेक्षित लेख अनुज्ञप्ति क्षेत्र
के लगभग 12 कि.मी.दूर, ग्राम खैरीडीह के निकट, तह. अजीरासाधर, जिला-
जाँजगीर से संलग्नशीट नं. 64 D/15 में दर्शाये गये खैरीहीह खनन क्षेत्र अवस्थित
किया है। और इसकी चारों ओर की सीमा रेखा खनन क्षेत्र के
नं. 838 एवं 839 है एवं जिसका अक्षांश 22° 55' 15.6" से 22° 56' 43"
एवं देशांतर 82° 25' 26" से 82° 26' 27.8" है।

क्षेत्र में स्थित ग्रामवासियों, जो कि मु. मुनिडीह, पलोड़ आदि
आस पास के क्षेत्रों में निवास करते हैं, उनके आने जाने के लिये कोई पक्का
मार्ग उपलब्ध नहीं है। स्थानीय ग्रामवासी पगडंडी के जरिए, कोई-कोई
कच्ची बैलगाड़ी मार्ग से निकलते हैं एवं खनन क्षेत्र के पश्चिम आयात क्षेत्र का
पश्चिमोत्तर-दक्षिण आयत क्षेत्र पास में है। इसमें कोल, डोरा, गर्दा, मोरम
मुरम (लेटेराइट से), सबसाय डोलोमाइट, लाल मुरमीट्टी, कोयला खदान
आदि मौजूद है।

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क्षेत्र का भौमिकीय मानचित्र 1:5000 स्केल [illegible] खैरीडीह
क्षेत्र से संलग्न [illegible] है।

क्षेत्र का टोपोशीट नक्शे से मौजूद स्केल, 1:50000 स्केल
में 5 मी. के अन्तराल पर कंटोरलाईन खींचे गये हैं, क्षेत्र में खनिज
के हिसाब से, खोदे गये कुल 06 नं. खनन क्षेत्र में से खनन क्षेत्र नं. BH/2, BH/3 एवं
BH/4 का निरीक्षण किया गया, इस खनन क्षेत्र में खनन कार्य
खनिकों के द्वारा किया जाता है। खनन क्षेत्र में खनन कार्य
मानवीय श्रम के द्वारा किया जाता है, खनन क्षेत्र में कोई भी
यांत्रिक उपकरण नहीं है। खनन क्षेत्र में खनन कार्य किया
जाता है, और उसके बाद उसे छोड़ दिया जाता है, खनन क्षेत्रों में पूर्वेक्षण के
समय कुछ [illegible] नहीं देखा जा सकता। क्योंकि क्षेत्र में निरीक्षण
के समय कोई गड्ढे आदि नहीं थे। इसलिए कोई भी [illegible]
कुछ भी कह सकता है कि उसके द्वारा कितना खनन किया गया है।

Arvind Kumar Singh
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ANNEXURE-13

FORM I

APPLICATION FOR MINING LEASE

[See rule 22(1)]

GOVERNMENT OF C.G. 4:30 P.M.
Received at D.G.M. Raipur (Place) On 23-1-07 (date)
Initial of Receiving Officer Date the ..... day of .....20.....

अधीक्षक
खनिज साधन विभाग छत्तीसगढ़

To,

Secretary
Minerals Resources Department
Government of Chhattisgarh
Through Director, Geology & Mining, Raipur.

Sir,

I/We request that a mining lease under the Mineral Concession Rules, 1960 may be grantded to me/us. Challan No 40788 72 Dt- 23/1/2007

2. A sum of Rs.3500/- ~~and Rs.1,000/-~~ being the fees in respect of this application and preliminary expenses respectively payable under sub-rule (3) of rule 22 of the said rule have been despoted (vide receipt Challan No 40 788 72 dated 23/1/2007 of the State Bank of India/Treasury Raipur)

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3. The required particulars are given below :-

(i)	Name of the applicant with complete address. Status of the applicant.	:	New Bharat fuse co. Ltd New Bharat Udhyog Bhawan Ring Road No. 1 Ravi gram Tele Bandha RAIPUR (C.G.)
(ii)	Is the applicant a private individual/Co-operative/ Firm/ association/private company/ public company/public sector undertaking or any other.		Private Company (Ltd)

Contd..2..

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(b) In case applicant is

(a) An individual, his nationality, qualifications and experience relating to mining. : Indian

(c) A company, an attested copy of the certificate of registration of the company shall be enclosed : Copy of Certificate of Registration enclosed.

(c) Omitted : N.A.

(d) Firm or association, the nationality of all the partners of the firm or members of the association. : N.A.

(e) A co-operative the nationality of non-Indian members, if any along with place of registration and a copy of the certificate of registration. :

(iv) Profession or business of applicant : Mining of Minerals, Manufacture of Sponge Iron and Explosives at Chattisgarh.

(v) Particulars of documents appended :

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	Document	Reference
(a)	Mining dues clearance certificate	
	OR	
(b)	Affidavit in lieu of Mining Dues Clearance Certificate; subject to the production of mining lease dues, clearance certificate within the period of ninety days of making application.	Affidavit enclosed.
	OR	
(c)	Affidavit when not holding any mining lease.	Affidavit enclosed
(d)	Affidavit that up-to-date Income-tax Returns as prescribed under the Income-tax Act, 1961 and that the tax due including the tax on account of self assessment has been paid.	Affidavit enclosed

(vi) Mineral or minerals which the applicant intends to mine. : Iron ore

(vii) Period for which the mining lease is required. : 20 years

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(viii) Extent of the area for which mining lease is required. : Map enclosed

(ix) Details of the area in respect of which mining lease required :

District	Tahsil	Village	Khasra No. Plot No.	Area (Hectares)	Ownership - Occupancy
Surguja	Bishrampur-Pratap-pur	Rasela	forest Compartment No 338 & 339	126 + 94 = 220 Hc forest land	Limited Company

(x) Brief description of the area with particular reference to the following :- :

(a) Does the applicant have surface rights over the area for which he is making an application for grant of a mining lease. : Applicant have P.L. in 2006. Now Submitting application for grant of Mining Lease.

(b) If not has be obtained the consent of the owner, and the occupier of the land for undertaking mining operation. If so, the consent of the owner and the occupier obtained in writing and be filed. : — N.A.

(xi)(a) The situation of the area in respect to natural features such as stream or lakes. : — NA —

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(b) In the case of village, areas, the name of the village, the khasra number, the area in hectares of each field or part thereof applied for. : N.A.

(c) In the case of area applied for is under forest, then the following particulars be given - : forest Land Village Rasela Compartment No 338 & 339 220 Hect- area

(1) Forest division, Block and Range : Bishrampratap Pur in Deorgaon forest Range

(2) Legal status of the forest (namely reserved, protected, unclassified, etc.) :

(3) Whether it forms part of a National Park or Wild-life Sanctuary. : N A

(4) Type and extent of vegetation in the area. : N.A.

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(b) For areas where no forest maps or cadastral maps are available, a sketch plan should be submitted on scale showing the area applied for together with boundary, if any, or any other existing mining lease or prospecting license area if the area applied for has any common point or line with the boundaries of existing prospecting license of mining lease areas. : forest map enclosed
copy of P.L enclosed

(xii) The areas applied for should be marked on plans as detailed below – Map enclosed.

(a) In case a cadastral map of the area is available, the area on this map should be marked showing the name of the village Khasra number and area in hectares of each field and part thereof. : forest land Rasoli Compartment No. 338 & 339 220 Hect.

(b) In case of forest maps, the area should be marked on the map showing the range and felling series. : map enclosed

(c) In case neither cadastral nor forest maps are available, the area should be marked on sketch plan drawn to scale showing on this plan all important surface and natural features, the dimensions of the lines forming the boundary of the area and the and distance of all corner points from any important prominent and fixed point or points. : forest map enclosed

अनुमोदित
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(xiii) Particulars of the areas mineral-wise within the jurisdiction of the State Government for which the applicant or any person joint in interest with him.

(a) Already hold under mining lease; :

(b) Has already applied for but not granted; :

(c) Being applied for simultaneously; : Affidavit enclosed.

(xiv) Nature of joint in interest, if any :

(xv)(a) Does the applicant hold a prospecting license over the are mentioned at (xi) above? If so, give its number and date of grant and the date when it is due to expire. : yes copy of the PL order enclosed

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(i) Has the applicant carried out the prospecting operations over the area held under prospecting license and sent his report to the State Government, as required by rule 16 of the Mineral Concession Rules, 1960? If not, state reasons for not doing so. : Yes
P L Report of applied Area is enclosed

(xvi) Broad parameters of the mineral/ore body/ bodies :

(a) Strike length, average width and dip. :

(b) Wall rocks on hanging and foot wall sides. :

(c) Whether area is considerably disturbed geologically or is comparatively free of geological disturbance? (copy of geological map of the area is to be attached.) :

Report of Geo Tech Studies is enclosed (C 25)

(d) Reserves assessed with their grade(s) (chemical analysis reports of representative samples are to be attached.) : Report of Geo Tech studies is enclosed (C 25)

(e) Whether the area is virgin? If not, the extent to which it has already been worked. In case there are old workings, their locations are to be shown on the geological map of the area. : N.A.

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(xvii) Broad parameters of the mine :

(a) Proposed date of commencement of the operations. : As soon as Mining Lease is granted

(b) Proposed rate of mineral production during the first 5 years (year-wise). : 1st 3 years 150,000 T. Per annum

(c) Proposed rate of production when mine is fully developed. : 350,000 T Per annum

(d) Anticipated life of the mine. : 25 years.

(e) Proposed method of mining (underground or opencast) : open Cast

(i) If underground, the method of approach to the deposit mineral/ore – Whether through inclines or shafts. : N.A.

(ii) If opencast, the over-burden to ore ratio and overall pit stope. : Report enclosed

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(f)	Nature of the land chose for dumping overburden/ waste and tailings (that is type of land whether agricultural, grasing land, barren, saline land, etc.) and whether proposed site has been shown on the mine working plan. Give also the extent of area in hectares set apart for dumping of waster and tailings.	:	Mining Plan is under Preparation
(xviii)	A report giving the details of prospecting carried out in the area together with assessment of the ore reserves, geological plans, results of chemical analysis of the representative samples, and boreholes and logs.	:	Report of prospecting Licence is enclosed.
(xix)	Manner in which the mineral raised is to be utilized	:	
(a) (i)	If for captive use, the location of plant and industry.	:	Captive use for own Sponge Iron Plant
(ii)	For sale for indigenous consumption.	:	Indigenous consumption
(b)	If for exports to foreign countries indicate –	:	
	(i) Names of the countries to which it is likely to be exported where the mine is being set up on 100% export oriented or tied-up basis.	:	— No —
	(ii) Whether mineral will be exported in raw form or after processing. Also indicate the stage of processing, whether intermediate stage or final stage of the end-product.	:	— No —
(c)	If it is to be used within the country, indicate –	:	— Yes —
	(i) The industry/industries in which it would be used.	:	Sponge Iron Plant
	(ii) Whether it will be supplied in raw form or after processing (crushing/grinding/ beneficiation /calcining).	:	Captive use

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	(iii) Whether it would need upgradation and if so, whether it is proposed to set up beneficiation plant. Also indicate the capacity of such plant and the time by which it would be set up.	:	- N A -
	(d) In case of coal, or other high bulk mineral/ ores details of existing railway transport facility available and additional transport facility, if any, required.	:	- N A -
(xx)	Name, qualification and experience of the Technical Personnel available for supervising the mines.	:	Technical & Emulified personal will be employed
(xxi)	(i) Financial resources of the applicant.	:	ction sources and Bank finan.
	(ii) Anticipated yearly financial investment during the course of mine construction and aggregate investment upto the stage of commencement of commercial production.	:	As required time to time
(xxii)	(a) Nature of waste water, (e.g. whether acidic). If so, expected pH value.	:	- NO -
	(b) The application form should be accompanied by a statement of the salient features of the scheme of mining. This should be generally on the lines of the "Project at a Glance" given in a mining feasibility report including features relating to the protection of environment.	:	Environment report shall b Submitted Later on. This Aspect will be covered in Mining Plan

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I/We do hereby declare that the particulars furnished above are correct and am/are ready to furnish any other details, including accurate plans as may be required by you.

Yours faithfully,

(Signature and designation of the applicant)

Place : Raipur

Date : 23/1/2007

Arvind Kumar Singh

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Rev. J & M. C. P. & Berar, (B.L.)

Sub- ler Rule 19 & 23 Under Treasury Rule 10 Original / Duplicate / Triplicate

Chal...n only Paid in to the State Bank..... Raipur ..... Treasury

खजाने में इसकी एक या दो या तीन नकल जैसा कायदा हो पेश करना चाहिये

(To be presented at the Treasury single or duplicate or triplicate as the case may be)

By whome brought कौन लाया	On what Account किस बाबत		Amount रकम	
Nav Asharai fire co Ltd Ring Road No 1 Teli Bandha Raipur (C.G)	M.L. fees for gravel at Rasoli Mines Teh. Bhanu Pratap Pur Dist. Kanker (C.G) Forest con. No 338 & Range : Dongakondi 339	Under Rupees In words किसने रुपयों के अन्दर 3500/- Total योजन	Rs. 3500	P. 00
			3500	00

In words Rs. Three thousand five hundred only

Head of Revenue- Major head Detailed Mead	0853 - ...धातु खनन और पा...उद्योग 800 - अन्य प्राप्तियाँ 0277 बड़े खनिजों से प्राप्तियाँ, अर्थ दण्ड एवं राजस्व काष्ठों सहित	Details तफसील Notes नोट Cash नगदी Total योजन	अनुमोदित APPROVED

Certified that the amount shown above have been entered in depsrtmentol registor to the head of revenue deposit.

Date 23/1/2007 Departmental Officer

Signature of Tenderer

नाम प्राप्त लिखित रूप से करने के ह...

3500

खजाने से इस्तेमाल के लिए FOR USE IN TREASHR

Examined Inital of Accountant	Received Rs (in figures) 3500/- Rs (in words) Three thousand five hundred only	Enteror no Signature of Accountant
	Signature of Treasurer	

Date .....200 Treasary officer Seal

Arvind Kumar Singh
RQF/CGP/225/2000/A

ANNEXURE-14

D 474478

Before the Notary Raipur (C.G.)

अनुमोदित
APPROVED

IN THE MATTER OF MINERAL AREA WISE UNDER RULE 22 OF MCR, 1960

I, Vishal Singh S/o Shri V.K.Singh, age 33 years, resident of Om Vihar, VIP Road, Raipur (C.G.) working as Joint Managing Director with Navbharat Fuse Co. Ltd., having its registered office – Navbharat Udyog Bhawan, P.O. Ravigram, Telibandha, Raipur (C.G.), solemnly affirm and state as under :

1. The deponent is working as Joint Managing Director, in the above firm.
2. The deponent is authorized signatory of above said company to perform such duties, sign papers, documents & deeds to liaise with all Central/State Government Authorities, Government Departments and Agencies and to do such other acts, deeds and things as may be desirable are required in connection with the development and operation of all or any Mines & new projects of the company.

Contd. Page...2

29 APR 2010

Arvind Kumar Singh
RJPNGP/225/2000/A

2751 26 APR 2010

क्रमांक ..... दिनांक ..... कीमती .....

लिखेला अवमानतापत्र कुलिता

ग्राम .....

तहसील .....

क्रेता .....

ग्राम ..... पो. ..... जिला .....

वास्ते अधिवक्ता कीमती .....

श्रीमति बकुल सरकार (स्टाम्प वेंडर)
पचपेढ़ी नाका, रायपुर (छ.ग.)

3. The company has been allotted LOI for Mining Lease area of Iron Ore by the Government of Chhattisgarh vide letter No. F 3-44/2007/12 dated 01.07.2009, in Rasuli (Village-Rasuli, Tehsil-Bhanupratappur, Distt. Kanker (C.G.), for an area of 220 Hectares, as per details given below :

Name of Village	As per Govt. Letter No. F 3-44/2007/12 dated 01.07.2009 , final available area for mining lease 220.00 Hectare					
	Mineable Area in M.L.			Restricted Area in M.L.		
Rasuli	Private Land	Govt. Forest Land (In Hect.)	Total (In Hect.)	Private Land	Govt. Land	Total (In Hect.)
	Nil	220.00 Hect.	220.00 Hect.	Nil	Nil	Nil

अनुमोदित
APPROVED

The above mentioned area of 220.00 Hectare, finally allotted in the LOI, and as also shown in the approved map, is the correct granted area.

4. I hereby swear on oath that the above mentioned area in free from any litigation.

29 APR 2010

(Deponent)

Verification

I, Vishal Singh S/o Shri V.K.Singh, age 33 years, resident of Om Vihar, VIP Road, Raipur (C.G.) deponent do swear on oath that the contents mentioned in para 1 to 4 above are true and conceal nothing. No part of it is false.

2Hence verified and signed on 28th April, 2010 at Raipur (C.G.)

29 APR 2010

SOLEMNLY AFFIRMED OR SWORN BEFORE ME BY THE WITHIN NAMED.

(Deponent)

Vinod Kumar Adil
NOTARY (ADVOCATE)
RAIPUR. (C.G.)

29/04/10

Name: Arvind Kumar Singh
S/o: R.B. Kanwar
Age: Nagar Dipty (C.G.)

7 - APR 2010

Arvind Kumar Singh
RQP/NGP/225/2009/A

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ANNEXURE - 15

Navbharat Fuse Co. Ltd.

Corporate Office : Navbharat Udyog Bhawan, Ring Road No.-1,
P. O. Ravigram, Raipur - 492 006 (C.G.) Phone : (0771) 4217200, Fax : (0771) 4217201
E-mail : info@webmail navbharat.org / corporate@webmail navbharat.org

LIST OF DIRECTORS

1.	Shri Vijay Kumar Singh	Managing Director
2.	Shri Vishal Singh	Jt. Managing Director
3.	Smt. (Dr.) Neena Singh	Director
4.	Shri S. D. Singh	Director
5.	Shri J.N. Singh	Director
6.	Smt. Geeta Singh	Director

अनुमोदित
APPROVED

Arvind Kumar Singh
RQP/NGP/225/2000/A

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ANNEXURE-16

Navbharat Fuse Co. Ltd.

Corporate Office : Navbharat Udyog Bhawan, Ring Road No.-1,
Ravigram, RAIPUR - 492 006 (Chhattisgarh)
Phone : (0771) 4011586-89, Fax : (0771) 4011585 E-mail : info@navbharat.org

CERTIFIED TRUE COPY OF THE MINUTES OF THE MEETING OF BOARD OF DIRECTORS OF THE COMPANY HELD AT ITS REGD.OFFICE ON DT. 20.01.2007

AGENDA	To authorize Sri Vishal Singh,S/o Sri Vijay Kumar Singh, Joint Managing Director to sign,authorize,lease, deal,execute, apply,modify the Mining Rights on behalf of the Company before various Non/ Government Departments,Tax Authorities, Private and Public Companies,and any other Statutory/Non-Stattutory Forum.
RESOLUTION	RESOLVED THAT Sri Vishal Singh, S/o Sri Vijay Kumar Singh, Joint Managing Director be and hereby is authorized to sign,authorize,lease,deal,execute,apply,modify the Mining Rights on behalf of the Company before various Non/ Government Departments ,Tax Authorities,Private and Public Companies, and any other Statutory/Non- Statutory Forum.

अनुमोदित
APPROVED

CERTIFIED TRUE COPY

(DIRECTOR)

Arvind Kumar Singh
RQP/NGP/225/2000/A

ANNEXURE- 47

Deleted the word Burnpur u/s 43A(1A) w.e.f 01/7/95
05-1h

कम्पनी रजिस्ट्रार
का दफ्तर पश्चिम
14-3-96

फार्म आई० आर०
Form I. R.

निगमन का प्रमाण-पत्र
Certificate of Incorporation

सं..... का सं.....
No. 2960 of 19 85

मैं एतद द्वारा प्रमाणित करता हूँ कि नवभारत फ्यूज कम्पनी [illegible] लिमिटेड

कम्पनी अधिनियम, 1956 (1956 का 1) के अधीन निगमित की गई है और कम्पनी परिसीमित है।

I hereby certify that NAVBHARAT FUSE COMPANY [illegible] LIMITED.

is this day Incorporated under the Companies Act, 1956 (No. 1 of 1956) and that the Company is limited by shares.

अनुमोदित
APPROVED

मेरे हस्ताक्षर से आज तारीख को दिया गया।
इकतीस बाईस उन्नीस सौ पांच

Given under my hand at GWALIOR this TWENTY SECOND day of JULY One thousand nine hundred and EIGHTY FIVE.

(S. Kanyakar)
कम्पनियों का रजिस्ट्रार
Registrar of Companies
Registrar of Companies,
MADHYA PRADESH, GWALIOR

Arvind Kumar Singh
RQP/NGP/225/2000/A

ANNEXURE-18

REPUBLIC OF INDIA

F 1696925

VISHAL SINGH

M

11/07/1976

RAIPUR

BHOPAL

01/02/2005

19/09/2013

P<IND<<VISHAL<SINGH<<<<<<<<<<<<<<<<<<<<<<<<

F1696925<5IND7607110M1209198<<<<<<<<<<<<<<

अनुमोदित
APPROVED

Arvind Kumar Singh
RQP/NGP/225/2000/A

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ANNEXURE-19

ur Bill
or Mobile Services

Airtel

Mr. Navbharat Fuse

Navbharat Udyog Bhawan
Ring Road No - 1
Telibandha
Raipur 492007
Chhattisgarh
106-100011150

Relationship Number	106-100011150
Bill Number	322719954
Bill Date	21-Sep-2010
Bill Period	20-Aug-2010 to 19-Sep-2010
Due Date	09-Oct-2010
Security Deposit	Rs. 0.00

Your Account Summary

Previous Balance		Payments		Adjustments		This Bill Period Charges		Amount Payable By 09-Oct-2010	Amount Payable After 09-Oct-2010
24,582.70	-	24,583.00	-	0.00	+	40,600.74	=	40,600.44	41,350.44

अनुमोदित
APPROVED

This Bill Period Charges

1 One Time Charges	0.00
2 Bill Period Charges	2,924.65
3 Usage Charges	
Call Charges	3,952.12
Value Added Services	551.60
Roaming	30,604.40
4 Discounts	-406.37
5 Last Bill Period Late Fee	0.00
6 Taxes	3,774.34
This Bill Period Charges (Rs.)	40,600.74

See overleaf for details

ecurity Alert: Calls announcing lottery/other prizes & demanding rocessing fees via TV re-charge coupons/other modes are fraudulent. lease ignore such calls.

PAID
Date 06/10
DD/Ch. No. 886
3924.65 + 3952.12 = 40600.74

on your mobile screen:

Step 1:
Press *121# (toll free)

Step 2:
Press OK or Dial Key

Step 3:
Follow the steps given to know your outstanding or unbilled amount, invoice details, last 3 payments, status of your service request and more

Service Tax Registration No. AAACB2503RST001 Under Category TELECOMMUNICATION SERVICE

E & OE

Please detach this slip and return with payments

9 ways to pay your bill

Pay from home
1. Pay using mChek on Airtel, call 543219 (toll free)
2. Log onto www.airtel.in and go to 'My Account' section

One time payment instructions
1. Give an ECS for your bank account
2. Give a standing instruction for charging your credit card

Walk in and pay at
1. Any Airtel Recharge outlet (cash)
2. Airtel Relationship Centre (cash/cheque/credit card)

unt Due 40,600.44
Date 09-Oct-2010

ake payments, kindly make crossed Cheque/DD/Pay Order in favour of " Airtel A/c No. - 106-100011150"

ue / DD / Pay Order no. _____ Amount Rs. _____ Dated _____

re ed _____ Airtel Outlet _____ Signature & Stamp _____

Credit Card no.

redit card payments: Rs. _____

/ ☐ Visa ☐ Diners ☐ Amex ☐ Expiry date (mm/yy) ☐☐ / ☐☐

older's name(as appearing on the credit card) _____

Ajay Kumar Singh
Rs.2000/-

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छत्तीसगढ़ राज्य विद्युत वितरण कंपनी मर्यादित, विद्युत भवन

(छत्तीसगढ़ राज्य विद्युत मण्डल की उत्तराधिकारी कंपनी)

उपभोक्ता संख्या 1000085237/61-17-90-00-639693 Last Payment: 1,770.00 Rs. on 17.08.2010

बिल माह	बिल क्रमांक	बिल दिनांक		पठन हेतु
AUG/10	712005218232	10/09/10		
नाम	M/S.NAV BHARAT FUSE CO.Ltd.		22.09.2010	25.09.2010

NEAR R.T.O.OFFICE RING ROAD
RAIPUR C.G.

PAID Date Rs. Receipt No. 1554

(City-East) Dn.RAIPUR
0771-2574786

वर्ग	:CI	टैरिफ श्रेणी	:LV2ND3OT09
	Non Domestic other connection(KWH,MD,PF)		
केवल	:	मिल आधार	:ASSESSED
संयोजित भार/लोड	:33500.0 W	पठनीय तिथि	:40864
अनुबंधित डिमांड	:	पिछली तिथि	:40864
मीटर स्थिरांक	:1.00	गुणांक	:1.00
पावर फैक्टर	:0.85	विद्युत दाब	: 0
बिल दिवस	: 31	अधिकतम डिमांड	:5.000
बिल संख्या	:35162	कुल खपत	:5.000

27 दिवस के पठन का ब्यौरा

Month	Reading	Units	Meter Status
2010/07	40864	0	DOOR LOCK
2010/06	40864	5402	OK
2010/05	35462	10445	OK
2010/04	25017	0	OK
2010/03	25017	3852	OK
2010/02	21165	2975	OK

29. स्थगित डिमांड	0.00
30. नियत/फीस प्रभार	3,400.00
31. उपकर प्रभार 5000.0 X 0.00	17,050.00
32. योग (29 जमा 30+31)	20,450.00
33. विद्युत शुल्क (छूटी)	2,149.00
34. उपकर डिमांड उपकर (देय) 5000.0 X 0.05	250.00
35. मीटर किराया	70.00
36. सेवीकृत / कंट्रीबूटेड अधिभार	3,750.00
37. सी.सी.ए चार्ज	0.00
38. अतिरिक्त सुरक्षा निधि देयक	0.00
39. विलंब निक्षेपण राशि EC: 0 0.00	0.00
40. विलंबित EC: उपभोक्ता 0.00	0.00
41. कुल बिल	26,669.00
42. सुरक्षा निधि देयकता	0.00
43. पिछली बकाया राशि	4.87
44. अतिरिक्त	3.87-
45. नियत तिथि तक कुल देयक राशि	26,670.00
46. अधिभार	
47. अधिभार सहित उक्त देयक राशि	27,070.00

अनुमोदित APPROVED

Contact Number for Bill Complain
Shri G. S. Suryavanshi
0771-2574786
Shri R.A.Pathak
0771-2574786

Payment can also made through Cheque/DD in CSPDCL Counters drawn in favour of "Regional Account Officer CSPDCL"

JE-17419 21.09.10

भुगतान की रसीद की मोहर

नोट :- (1) अनुस्मिका से बचने के लिए बिल का भुगतान नोटिस दीजिये। अंतिम तिथि के बाद 15 दिन तक भुगतान न किये जाने पर बिजली कनेक्शन की कार्यवाही की जा सकती है।
(2) सभी राशि रुपये पैसे में

जारी करें कार्यालय प्रति

छत्तीसगढ़ राज्य विद्युत वितरण कंपनी मर्यादित, (कार्यालयीन उपयोग हेतु)

0719376

1000085237/61-17-90-00-639693 Read CSPDCL in place of I-OCB

712005218232 बिल दिनांक 10/09/10

देय हेतु	भुगतान हेतु अंतिम तिथि	पठन हेतु
22.09.2010		25.09.2010
देयक		0.00
		0.00
नियत तिथि तक)		26,670.00
(अधिभार सहित)		

भुगतान की रसीद की मोहर

Arvind Kumar Singh
RQP/NGP/225/2000/A

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ANNEXURE-20

DIRECTORATE OF GEOLOGY AND MINING, CHHATTISGARH.

Sonakhan Bhavan, Ring Road No. 1 Village Purena, P.O Ravigram, (C.G.) 492006
Phone : 0771-2412840,44, 45 Fax No. 0771- 2412841, Email: dgmcg@datnone.in

No. 994 /Cent. Lab/File No.Comm.Ana./2011 Raipur, Dated 25-10-2011

To,

M/s Navbharat Fuels Company Ltd., Raipur
C/o Siddharth Geo Consultants, Raipur
621/3, 1st Floor, Ramkund, Samta Colony, Raipur

Sub :- **Chemical Analysis of Sample submitted by you.**
Ref:- **Your letter dated 22-10-2011**

With reference to your letter dated 22-10-2011, and Analysis Charges paid by you through Challan No. 8649467, dated 22-10-2011, Chemical Analysis report of samples submitted you is enclosed herewith this letter.

Note: **Sample was not collected by the Department.**

अनुमोदित
APPROVED

Joint Director Laboratory)
Directorate of Geology & Mining.
Chhattisgarh.

No. / Cent. Lab/File No.Comm.Ana./2011 Raipur, Dated 25-10-2011

Copy to :-

Officer In-charge, Geology, Directorate of Geology Mining, Chhattisgarh , Raipur for information and necessary action.

Joint Director Laboratory)
Directorate of Geology & Mining.
Chhattisgarh.

Arvind Kumar Singh
RQP/NGP/225/2000/A

Analysis Result
CALL-30

M/s Navbharat Fuels Company Ltd., Raipur
C/o Siddharth Geo Consultants, Raipur
621/3, 1st Floor, Ramkund, Samta Colony, Raipur

Raipur 22.10.2011

S. No.	Sample No.	SiO_2%	Al_2O_3%	Fe_2O_3%	TiO_2%	S%	P_2O_5%	LOI%	Total	Fe%
1	NFS1	1.60	0.20	97.00	Traces	Traces	Traces	0.42	99.22	66.93
2	NFS2	5.88	6.70	85.10	0.10	Traces	0.03	1.70	99.51	58.71
3	NFS3	1.40	0.30	96.90	Traces	Traces	0.01	0.80	99.41	66.86
4	NFS4	1.50	0.20	96.70	Traces	Traces	Traces	1.18	99.58	66.72
5	NFS5	5.80	6.90	85.20	0.10	Traces	0.03	1.60	99.63	58.78
6	NFS6	2.48	1.30	94.20	Traces	Traces	0.02	1.52	99.52	64.99
7	NFS7	1.72	0.20	97.00	Traces	Traces	0.01	0.50	99.43	66.93
8	NFS8	1.92	0.30	96.60	Traces	Traces	0.02	0.70	99.54	66.65
9	NFS9	4.26	1.50	91.80	0.10	Traces	0.03	1.82	99.51	63.34
10	NFS10	3.32	2.30	92.20	0.10	Traces	0.02	1.49	99.43	63.61

अनुमोदित
APPROVED

Joint Director (Lab Laboratory)
Directorate of Geology & Mining,
Chhattisgarh.

Arvind Kumar Singh
RQP/NGP/225/2000/A

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ANNEXURE - I

SUMMARISED LITHOLOGS OF BOREHOLES DRILLED BY CDS GEOTECH – INDIA

S. N.	BOREHOLE NO.	R. L. IN METERS	LITHOLOGICAL DISCRIPTION			AVERAGE GRADE		
			FROM	TO	DISCRIPTION	Fe %	SiO_2 %	P %
1	2	3	4	5	6	7	8	9
1.	B. H. NO. 1	537.00	0.00	2.00	Top soil	-	-	-
			2.00	14.00	Laminated iron ore	62.40	4.70	0.08
			14.00	16.00	Banded Hematite Quartzite	-	-	-
			16.00	20.00	Hard massive iron ore	63.60	4.20	0.09
			20.00	26.00	Shaly iron ore with pieces of laminated iron ore	59.00	6.70	-
			26.00	32.00	Laminated iron ore	61.30	5.70	0.08
			32.00	34.00	Hard massive iron ore	64.20	4.20	-

अनुमोदित
APPROVED

Arvind Kumar Singh
RQP/NGP/225/2000/A
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			34.00	38.00	Laminated iron ore	61.40	5.20	0.09
			38.00	40.00	Shale	-	-	-
2.	B. H. NO. 2	572.620	0.00	2.00	Laminated iron ore	60.40	3.70	0.09
			2.00	3.00	Banded Hematite Quartzite	-	-	-
			3.00	6.00	Shaly iron ore	59.50	-	-
			6.00	8.00	Hard massive iron ore	64.30	4.30	0.08
			8.00	14.00	Laminated iron ore	60.20	4.70	0.07
			14.00	17.00	Shaly iron ore	-	-	-
			17.00	20.00	Laminated iron ore	61.20	5.50	-
			20.00	22.00	Shaly iron ore	-	-	-
			22.00	26.00	Hard massive iron ore	64.80	4.50	-

अनुमोदित
APPROVED

Arvind Kumar Singh
RQP/NGP/225/2000/A

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			26.00	32.00	Laminated iron ore	60.80	4.80	0.04
			32.00	34.00	Shaly iron ore	-	-	-
			34.00	36.00	Laminated iron ore	61.40	-	-
			36.00	38.00	Banded Hematite Quartzite	-	-	-
3.	B. H. NO. 3	588.750	0.00	2.00	Top soil	-	-	-
			2.00	6.00	Hard massive iron ore	64.20	4.50	0.08
			6.00	16.00	Laminated iron ore	61.60	3.80	-
			16.00	20.00	Shaly iron ore	-	-	-
			20.00	24.00	Hard massive iron ore	63.70	4.80	0.07
			24.00	30.00	Laminated iron ore	61.70	6.50	-

			30.00	32.00	Shale	-	-	-
			32.00	36.00	Hard massive iron ore	64.30	4.80	0.09
			36.00	38.00	Laminated iron ore	61.30	5.40	-
			38.00	40.00	Banded Hematite Quartzite	-	-	-
4.	B. H. NO. 4	532.580	0.00	1.00	Top soil	-	-	-
			1.00	6.00	Laminated iron ore	60.40	3.70	0.09
			6.00	8.00	Banded Hematite Quartzite	-	-	-
			8.00	12.00	Laminated iron ore	61.80	4.60	0.07
			12.00	16.00	Hard massive iron ore	64.50	2.80	0.08

अनुमोदित
APPROVED

Arvind Kumar Singh
RQP/NGP/225/2000/A

			16.00	19.00	Shaly iron ore	-	-	-
			19.00	24.00	Laminated iron ore	62.40	4.80	-
			24.00	28.00	Shaly iron ore	58.50	5.80	-
			28.00	30.00	Banded Hematite Quartzite	-	-	-
			30.00	35.00	Laminated iron ore	60.70	5.30	0.08
5.	B. H. NO. 5	538.500	0.00	1.00	Top soil	-	-	-
			1.00	6.00	Hard massive iron ore	63.00	3.50	0.08
			6.00	8.00	Banded Hematite Quartzite	-	-	-
			8.00	12.00	Hard massive iron ore	63.90	3.40	0.09
			12.00	14.00	Laminated iron ore	61.70	4.50	-

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			14.00	16.00	Shaly iron ore			
			16.00	26.00	Laminated iron ore	62.40	5.40	0.08
			26.00	30.00	Shaly iron ore with pieces of laminated iron ore	60.50	-	-
			30.00	34.00	Laminated iron ore	62.10	4.60	-
			34.00	36.00	Banded Hematite Quartzite	-	-	-
6.	B. H. NO. 6	549.500	0.00	4.00	Hard massive iron ore	63.90	4.10	0.08
			4.00	6.00	Banded Hematite Quartzite	-	-	-
			6.00	8.00	Laminated iron ore	61.70	3.80	0.09

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			8.00	10.00	Quartzite	-	-	-
			10.00	18.00	Laminated iron ore	61.40	5.70	-
			18.00	22.00	Shaly iron ore	-	-	-
			22.00	30.00	Laminated iron ore	62.50	5.41	0.08
			30.00	34.00	Laminated iron ore with shale pieces	58.50	-	-
			34.00	38.00	Laminated iron ore	61.80	5.40	-
			38.00	40.00	Banded Hematite Quartzite	-	-	-

Note: - Locations of boreholes are shown on Surface Geological Plan (Refer Plate I).

ANNEXURE - 21 P.

→ MR. ARVIND SINGH

BY REGD POST

GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES
OFFICE OF THE CHIEF CONTROLLER OF MINES

No. N-11013/61/MP/07-CCOM (P-II) **Nagpur dated 24/02/2010**

To,

The General Manager (Geol.Ser)
M/s Monnet Ispat & Energy Ltd.
Monnet Marg, Mandir Hausad,
RAIPUR (Chattisgarh).

Subj:- Permission for preparation of plans on a scale other than prescribed scale unde rule 27(1)(d) of MCDR 1988 in respect of proposed Mining lease for Iron Ore ove an area of 220Hectares in village Rasulii, Tahasil-Bhanupratappur,Kanker Distri in favour of M/s Navbharat Fuse co. Ltd.

***Ref:- Your Fax letter No.* Nil, dated 15/10/2009.**

Sir,

With reference to above letters it is to inform that your request has been dul considered and permission is hereby granted to prepare *Surface Plan and Geological Plan* of the aforesaid mining lease for Iron Ore on a scale of ***1:4000***, provided that mining bloc is demarcated clearly on the surface plan showing the area proposed for excavation for nex five years.

Year-wise development plan (pit position at the end of every year for five years within the mining block boundary should be drawn on a scale of ***1:2000.*** The section prepared should be in the same natural scale and all the plans and sections should be lai down on suitable grid for easy reference.

Yours Faithfull

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(M.SENGUPTA
Suptdg. Mining Geologi
For Chief Controller of Mine

1/1

Arvind Kumar Singh
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ANNEXURE-22

Navbharat Fuse Co. Ltd.

Corporate Office : Navbharat Udyog Bhawan, Ring Road No.-1,
P. O. Ravigram, Telibandha, RAIPUR - 492 006 (Chhattisgarh)
Phone : (0771) 4217200, Fax : (0771) 4217201
E-mail : info@webmail.navbharat.org / corporate@webmail.navbharat.org

ISO-9001 REGISTERED FIRM D.N.V.B.V. NETHERLANDS

THE UNDERTAKING REGARDING

GoI Letter F. No. 10/75/2008-MV, Dated 23/12/2010

I am **Vishal Singh (JT Managing Director), Navbharat Fuse Co. Ltd.** Steel Division, Navbharat Udyog Bhawan, Ring Road No. 1, Po Ravi gram, Raipur Chhattisgarh giving an undertaking for Iron Ore deposit of village Rasuli over an area of 220.00 hect. as follow:-

i) After the Mining Lease is executed, the mineral reserves/ resources of homogeneous type for which the mining plan is being submitted for approval, would be converted into proved reserves as per UNFC system at an appropriate cut off grade with the new threshold values within one year of M/L, equivalent to minimum five years planned production, failing which no mining operations will be carried out/commence further.

ii) The feasibility study for the area will be undertaken to convert the resources into reserves once the M/L is granted.

iii) For the remaining/ unexplored part of ML areas, assessment of mineral reserves/ resources under UNFC system shall be as per Ministry of Mines letter No. F. No.-10/75/2008-MV dated 23/12/2010.

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For

Navbharat Fuse Co. Ltd.

Arvind Kumar Singh

FEASIBILITY REPORT FOR RASULI IRON ORE DEPOSIT AT TEHSIL BHAUPRATAPPUR, DISTRICT KANKER STATE CHHATTISGARH 220.00 HECTARE, SUBMITTED UNDER RULE 22 OF MCR 1960 FOR GRANT OF MINING LEASE.

INTRODUCTION

The feasibility report for Rasuli Iron Ore deposit over an area of 220.00 hectare in village Rasuli, Tehsil Bhanupratappur, District Kanker, Chhattisgarh is being submitted by applicant M/s Navbharat Fuse Co.Ltd, Village : Rasuli 120km from Rajnadgaon,72 km from Dallirajhara.

INFRASTRUCTURE

Electric power is available at RASULI village near the proposed site for operating crusher and other machineries if required as well as for electricity purpose. Primary school is located at RASULI. Secondary school and post office are located at Durg-Kondal. The Nearest railhead at Dalli Rajahara is about 72 km away from the proposed site. Drinking water is available from well and bore well in the village which is potable and fulfils the requirement of drinking water at site. Nearest Airport Raipur is about 158 km. The sufficient man power Available in the surroundings villages.

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GEOLOGICAL

STRUCTURE AND GEOLOGY

Geological mapping of the area has indicated the presence of major litho-units, namely Iron Ore formation, BHQ, Phyllite and Ferruginous Shale. Iron ore is seen as smaller lenticular bodies covered by soil and scree. On the basis of geological mapping and the data obtained from drilling of six boreholes the following sequence of formation has been established for the area:-

Laterite

Iron Ore Fomation

Banded Hematite Quartzite (BHQ)

Phyllite/Ferruginous Shale

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Granite Gneiss

ASSESSMENT

The applied area has already old excavations where the limestone mineralized over the applied area and the depth continuation has been explored from the bore hole. The higher altitude are has soil cover along with interstitial sandstone boulder. Here G1 (detailed exploration) will be discussed here:

GEOLOGICAL SURVEY:

Mapping : 1:5000 for Iron ore deposit

PREPARATION OF DETAILED TOPOGRAPHICAL CUM GEOLOGICAL MAP:

Plan & section prepaired in the 1:5000 scale.

SURFACE EXPOSURE

The Iron ore has the surface exposure at the higher altitude of the area and confirming its later & vertical extend in the hill slops .

BORE HOLE

During the PL period applicant has done the exploration in the form of on e core bore hole as per standard spacing norm and the litho sequence of bore as follows:

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Soil : 0.000-2.00m

Iron Ore : 2-40 m

SAMPLING

During the period of exploration sample were collected from the Exposures and for bore hole sample has been analyzed

Total sample collected for analysis : 38

Result of analysis

Depth wise Grade of Iron Ore:

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BOREHOLE NO.-1	LITHOLOG			AVERAGE GRADE		
	FROM-2	TO-3	DISCRIPTION-4	Fe-5	SiO2-6	P-7
B.H. No.1	0.00	2.00	Top Soil	-	-	-
	2.00	14.0	Laminated Iron Ore	62.4	4.70	0.08
	14.0	16.0	BHQ	-	-	-
	16.0	20.0	Hard massive Iron ore	63.60	4.20	0.09
	20.00	26.00	Shaly Iron ore with laminated Iron ore	59.00	6.70	-
	26.00	32.00	Laminated Iron ore	61.30	5.70	0.08
	32.00	34.00	Hard massive Iron	64.20	4.20	-
	34.00	38.00	Laminated Iron ore	61.40	5.20	0.09
	38.00	40.00	Shale	-	-	-
H. No.2	00.00	2.00	Laminated Iron ore	60.40	3.70	0.09
	2.00	3.00	BHQ	-	-	-
	3.00	6.00	Shaly Iron ore	59.50	-	-
	6.00	8.00	Hard massive Iron	64.30	4.30	0.08
	8.00	14.00	Laminated Iron ore	60.20	4.70	0.07
	14.00	17.00	Shaly Iron ore	-	-	-
	17.00	20.00	Laminated Iron ore	61.20	5.50	-
	20.00	22.00	Shaly Iron ore	-	-	-
	22.00	26.00	Hard massive Iron	64.80	4.5	-

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	26.00	32.00	Laminated Iron ore	60.80	4.80	0.04
	32.00	34.00	Shaly Iron ore	-	-	-
	34.00	36.00	Laminated Iron ore	61.40	-	-
	36.00	38.00	BHQ	-	-	-

1	2	3	4	5	6	7
H. No.3	00.00	2.00	Top soil	-	-	-
	2.00	6.00	Hard massive Iron	64.20	4.50	0.08
	6.00	16.00	Laminated Iron ore	61.60	3.80	-
	16.00	20.00	Shaly Iron ore	-	-	-
	20.00	24.00	Hard massive Iron	63.70	4.80	0.07
	24.00	30.00	Laminated Iron ore	61.7	6.50	-
	30.00	32.00	Shale	-	-	-
	32.00	36.00	Hard massive Iron	64.30	4.80	0.09
	36.00	38.00	Laminated Iron ore	61.30	5.40	-
	38.00	40.00	BHQ	-	-	-
B.H. No.4	00.00	1.00	Top Soil	-		-
	1.00	6.00	Laminated Iron ore	60.40	3.70	0.09
	6.00	8.00	BHQ	-	-	-
	8.00	12.00	Laminated Iron ore	61.80	4.60	0.07
	12.00	16.00	Hard massive Iron	64.50	2.80	0.08
	16.00	19.00	Shaly Iron ore	-	-	-
	19.00	24.00	Laminated Iron ore	62.40	4.80	-

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	24.00	28.00	Shaly Iron ore	58.50	5.80	-
	28.00	30.00	BHQ	-	-	-
	30.00	35.00	Laminated Iron ore	60.70	5.30	0.08
B.H. No.5	00.00	1.00	Top Soil	-	-	-
	1.00	6.00	Hard massive Iron	63.00	3.50	0.08
	6.00	8.00	BHQ	-	-	-
	8.00	12.00	Hard massive Iron	63.90	3.40	0.09
	12.00	14.00	Laminated Iron ore	61.70	4.50	-
	14.00	16.00	Shaly Iron ore	-	-	-
	16.00	26.00	Laminated Iron ore	62.40	5.40	0.08
	26.00	30.00	Shaly Iron ore with Laminated Iron ore	60.50	-	-
	32.00	34.00	Laminated Iron ore	62.10	4.60	-
	34.00	36.00	BHQ	-	-	-

Present exploration bore hole proved that the Iron ore is mineralized for its 50m depth and RL of mineralization is measured from 734m 684m

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GRADE

The analytical results have the Sponge grade Iron ore.

CATEGORISATION OF RESERVES:

Depending on the degree of certainty, the reserves of Iron ore estimated by cross-section method have been classified into two categories, namely, "Proved" and "Probable". The following criteria have been considered in classifying the reserves: -

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1) Proved Reserves: - The reserves of Iron ore estimated up to the depth to which the ore zone has been intersected in boreholes have been classified under 'Proved' category.

2) Probable Reserves: - The reserves of iron Ore estimated up to a depth of 15 m from the limit of proved reserves have been classified under 'Probable' category.

ESTIMATION OF FLOAT ORE RESERVES:

As stated earlier, float ore zones are present along the slopes in the area. In all, five float ore zones have been demarcated during geological mapping and are numbered as float Ore Zone G, H, I, J, and K. for estimating the reserves of float ore, the area of float ore zone has been measured with the help of Electronic Planimeter. The area of float ore zone has been multiplied by an assumed depth of 2.5 mt to obtain volume in cubic meter. A recovery factor of 20% has been considered to measure an effective volume of float ore. The effective volume has been multiplied by a bulk density of 3.0 to obtain recoverable reserves of the float ore in tons. The details of estimates of float ore are given in Annexure-2.

RESERVES AND GRADES:

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The details of reserves of Iron ore estimated by cross-section method under Proved and Probable categories are given in Annexure-1. A summary of the 'in-situ' and recoverable reserves of the Iron ore are given in table4.6.1.1 below:-

SUMMARY OF PROVED AND PROBABLE RESERVES OF IRON ORE

Category of Reserves	In-Situ Reserves (In million tons)	Recoverable Reserves (Mt.)
Proved	4.660	3.728
Probable	2.019	1.615
Total	6.679	5.343

Reserves of Float Ore:- **0.38**

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The details of reserve estimation of float ore are given in Annexure-2. The reserve estimation are classified under probable category.

A summary of recoverable reserve i.e. reef ore and float ore under 'proved' and 'probable' categories is given below .

SUMMARY OF RECOVERABLE RESERVES OF IRON ORE

(Reserves in million tones)

Category of reserves	Reserves of reef ore (In Mt.)	Reserves of Float ore (in Mt.)	Total (Mt.)
Proved	3.728	-	3,728
Probable	1.615	0.38	1.995
Total	5.343	0.38	5.723

OTHER RELEVANT INFORMATION

In the area is there in no cave which has certified by the State Government

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COLEGAL MATTERS

Right and Ownership of State Govt.

Proposed ML sanctioned area is of Govt. Forest land of Durg Konda forest Range ,in Bhanupratappur Forest division.

SOCIO ECONOMIC IMPACT STUDIES

Well this is fresh grant case, the majority people are tribal and with this lease and under construction their socio economic status will be increase.

Public acceptance

It well accepted by the public

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LAND REQUREMENT

No additional land is required.

GOVERNMENT FACTORS

Under the State and Central legislature is following the all rules and laws which includes MCR 1960, MCDR 1988, MMR 1957, Environment Clearance and Pollution Control Board clearance from State Government.The other matter under MMR 1957 where statutory 7.5m barrier zone has

MINING

proposed to open a working pit by slicing the deposit from the top and it is observed out of six blocks which has been identified and explored Block No. A are prominent having wide thickness and depth persistence of more than 40 m available in the area. It is proposed to open the pit in Block No. A by slicing from the top and exposed an area of around 4000 m^2 with two benches in iron ore at the height of 5.0m each. The face advancement will be from northern side towards southern side following outcrop. Besides, in initial years stress will be given to carry out float mining operation until the production and quality is stabilized. It is already mentioned that the deposit is outcropping due to which there will not be any appreciable generation of overburden for the next five years of mining operation.

MINING EQUIPMENT

The excavation will be carried out by using excavator machines/manually. The excavated material will be sorted and sized at the surface stacking site or at the quarry bottom stacking site. The sizing will be done manually by hammers after blasting and sorting. The Drilling and blasting will be through conventional methods along with compressor and jack hammers. Different machines used for mining purposes are given below:

Drilling Machines:

Type	Nos.	Dia. Of Hole(mm)	Size/ Capacity	Make	Motive Power	HP
Wagon Drill	**2**	**115**		**Atlas Copco IR**	**Compressed Air**	
Screw Com-pressor	**2**		**450cfm**	**Atlas Copco**	**Diesel**	
Shot Firing m/c	**2**		**100 shots**	**Dynamo**	**Battery**	

(2) Loading equipment:

Type	Nos	Bucket Capacity In m^3	Make	Motive Power	HP
Excavator Cum Loader	**2**	**1.2**	**L & T/**	**Diesel**	**110**

(3) Haulage and Transport Equipment:

(a) Haulage within the mining lease hold:

Type	Nos.	Size/Capacity In m^3	Make	Motive Power	HP
Tippers	**12**	**8**	**TATA/ ASHOK LEYLAND**	**Diesel**	**80**

Type	Nos.	Size/Capacity In m^3	Make	Motive Power	HP
Tippers	12	8	TATA/ ASHOK LEYLAND	Diesel	80

Transport from mine head to the destination:

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All ROM sized Iron ore will be hauled to surface stacking site to the captive unit by hired trucks which will be hired from local contractors. It has been envisaged to construct the approach road from top to the bottom of the hillock.

The sharpening of tools and minor maintenance will be carried out at the site itself. In case of major repair or overall maintenance the equipments will be sent to the workshop of the manufacturers/authorized agencies.

Drilling:

There is no overburden in the area as the iron ore deposit is almost outcropping over the area. Iron ore is hard and it can not be removed without drilling and blasting. The holes will be drilled by compressed air operated jack hammer in rows and the spacing between two holes in a row will be 1.0m and the burden will be 0.9m. The depth of the hole will be 1.5m to 1.6m and the dia. Of the holes will be 34. The benches will be drilled and blasted with 1.5m lift. No drilling and blasting will be required for float ore mining. It will be simply picked up manually and stacked in the predetermined place for further dispatch.

Loading:

It is already mentioned that the mining operation will be of manual nature. In case of Iron ore after blasting it will be fragmented and it will be sized. The iron ore float will be loaded to the trucks or tippers for onward dispatch to the captive plant of the applicant which is located near Raipur.

TAILING APPROVED TECHNOLOGICAL PILOT TEST

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It will be according to mining plan.

MILL DISPOSAL

Not required.

WATER MANAGEMENT

During rainy and post monsoon season the water logged pit will be dewatered by the diesel pump through settling tank to the nala. Further the it will be used for sprinkling purpose to suppress the dust.

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TRANSPORTATION

It will be by trucks.

POWER SUPPLY

Not required for the mining activity.

Manpower/Labour relations

Sufficient manpower is available from near by area

ENVIRONMENT

This is a fresh grant case, present environment is normal, in due course of mining activity the environment likely to be transiently polluted by blasting movement of trucks which will be taken care by wet drilling, sprinkling of water over the .

MARKET ANALYSIS

As the applicant will be using the Iron ore in there sponge Iron Plant for its captive use as per given information the rate of sponge in market is Rs. 15000/ tone.

SENSITIVITY STUDIES

Sensitivity studies depend up on the market trend which is showing the positive.

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RISK ASSESSMENT

High risk accidents are not anticipated in the area because proposed mining is of moderate scale. In case of natural disaster such as earthquake, flood, storm etc. as per the situation, lessee will take the assistance from the local competent authority of govt. and non-government agency, similarly mines manager will be in touch of local people for immediate amelioration and care in coordination with state govt. directives.

ECONOMIC VIABILITY OF THE PROJECT

Based up on the exploration, quality of the Iron ore, available near by infrastructure ensuring the project is viable and economical.

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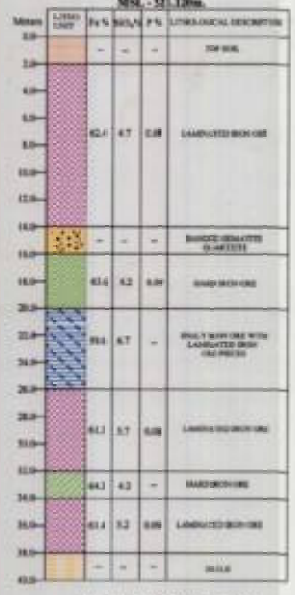
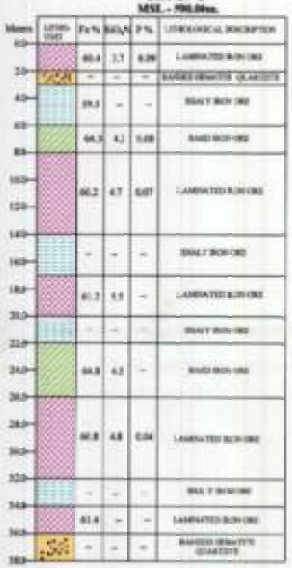
BH NO. - 1
MSL - 521.120m.



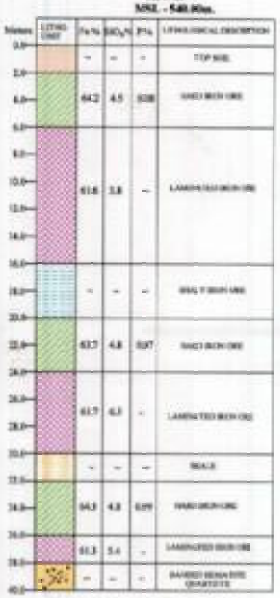
BOREHOLES CLOSED AT 40.0 M.

BH NO. - 2
MSL - 506.00m.



BOREHOLES CLOSED AT 38.1 M.

BH NO. - 3
MSL - 540.40m.

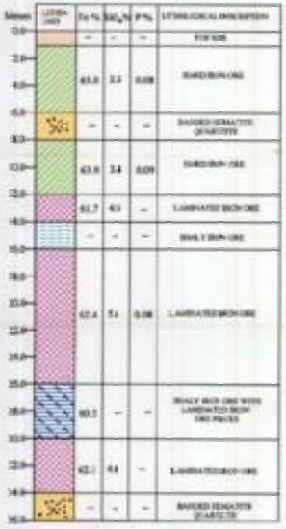


BOREHOLES CLOSED AT 40.0 M.

BH NO. - 4
MSL - 573.66m.

BOREHOLES CLOSED AT 35.0 M.

BH NO.- 5
MSL - 534.420m.



BOREHOLES CLOSED AT 36.0 M.

BH NO. - 6
MSL -538.440m.

BOREHOLES CLOSED AT 40.0 M.

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SCALE - 1: 200

INDEX

- TOP SOIL COVER
- HARD IRON ORE
- LAMINATED IRON ORE
- SHALY IRON ORE
- SHALY IRON ORE WITH LAMINATED IRON ORE PIECES
- LAMINATED IRON ORE WITH SHALE
- QUARZITE
- BANDED HEMATITE QUARTZITE
- SHALE

LITHOLOGICS OF BOREHOLES RASULI IRON ORE DEPOSIT

Annexure no.-24

M/s NAUBHARAT FUSE CO. Ltd.
Area - 220.00 Hect.
Tahsil - Bhanupratappur, District -Kanker (C.G.)

Date of survey - 12-09-2009
Certified that the plotting of the area is correct to my knowledge

Prepared by-

RQP - Mr. Arvind Singh — Mr. Alok Verma

For, Siddharth Geo Consultants — Miss. Shweta Choudhary

⇦ INISTU IRON ORE

⇩

⇦ FLOAT ORE

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FOLDING IN IRON ORE (BIF)

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