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**MSPL LIMITED**

**Corp. Office :** Baldota Enclave, Abheraj Baldota Road, Hosapete - 583203 , Karnataka, India.
Office : +91 8394 232002, 232003, Fax : +91 8394 232444
Email : email@mspllimited.com url : www.baldota.co.in
**Reg. Office :** Baldota Bhavan, 117, Maharshi Karve Road, Mumbai - 400020. India.
Tel : +91 22 22030989 Fax : +91 22 22019762 Email : mspl.mum@mspllimited.com
CIN U13100MH1961PLC012160

01 E

Ref No: MSPL/JIOM/EDS reply/2022-23/01 Dated: 09.01.2023

**To,**

**Deputy Conservator of Forests,**
**Ballari Division, Ballari.**

**Dear Sir**

**Sub:** Diversion of 61.43 ha of Forest Land in Jaisingpura Village , in North Eastern Forest Block, Sandur Taluk, Ballari District, in favourof M/S MSPL Limited **(Proposal No-FP/KA/MIN/49750/2020) [Form-A])-Reg**

Ref: 1) PCCF HOFF Bangalore letter No: KFD/HOFF/A5-1(MNG)/28/2020-FC Dt: 17/19.12.2022.
2) CCF Ballari letter No: M1: MNG:CR-01/2005-06(ANS)/337Dated: 20.12.2022
3) Your Office letter NO:M1/MNG/MSPL/ANS/2531(0015)/2020-21/1954 Dated 27.12.2022.

With reference to the above subject, your good office letter vide ref (3) informed us for clarification with regards to surrender of Mining Lease and submit clarification report, so in this context we are herewith furnishing the information / report as below:

1. Pursuant to notification and NIT, auction was conducted by the Government of Karnataka &MSPL was declared as "Preferred Bidder" in accordance with Mineral Auction Rules 2015for the Iron Ore Block of M/s Ashwathnarayana Singh & Company (MLNO 2531). Based on this & subsequent upfront payments, LOI was granted to MSPL on 14.08.2019.
2. Further as per the MoEF guidelines dated 31.03.2020 regarding payment of NPV, DCF Ballari issued Demand notice on 20.04.2020 for NPV payment of Rs. 4,23,75000 /- for an area of 56.5Ha .We have remitted the Net Present Value (NPV) charges, through RTGS and e-payment module of forest clearance portal dated 15.07.2020.
3. Upon subsequent payment of NPV charges, Department of Mines & Geology issued vesting Order on 28.07.2020 valid for a period of 2 years from the date of execution of Lease deed ( Dated: 12.08.2020) for grant of JIOM Mining Lease for Iron Ore Mineral over an area of 56Ha situated at Jaisingpur village , Sandur Taluka, Ballari District , Karnataka.
4. Forest department executed Forest Agreement on 06.10.2020 & working permission was issued by DCF Bellary on 09.10.2020.
5. MSPL has duly complied with all the terms and conditions of the lease Deed & MDPA dated: 10.08.2020 and commenced its Mining Operations on 15.10.2020.
6. During the Excavation activity, MSPL Ltd has noticed that the reported quantity of reserves of 2.116 Million Tons iron ore as stated in the Geological Report of the NIT dated 08.03.2019 is not available. It would be worth mentioning here that the reported iron ore reserves of 2.116Million Tons were the main basis of our bidding. As a result, the mineral excavation could not be possible due to absence of sufficient mineral reserve in the mine as per the terms and conditions of schedule - C of the MDPA and only negligible quantity of 121,068 tons of ROM that too with great efforts could be produced during the period of2020 -21 and 2021-22.

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CIN UI3100MH1961PLC012160

7. Evidently, this ROM was processed to produce 91348 tons of Fines & 29720 tons of Lumpy Ore respectively. Out of the 91,348 tons of fines, 72,000 tons (dispatched to our pellet plant in the year 2021-22) and 19179.34 tons (6748.00 in the month of May 2022 to our Pellet Plant & 12431.34 Tons was dispatched to local Vendor).The remaining quantities of 168.66 tons of fines and 29,720 tons of lumps is still stocked in the lease area.
8. Due to difficulties in sustained mining operations, MSPL Ltd decided to verify and locate the mineral reserves as shown in the geological report of the NIT dated 08.03.2019 and carried out drilling activity almost adjacent and over the same boreholes locations as was shown in the geological report. Few additional boreholes were also drilled to ascertain if any extension of ore zone or any extra ore body exists. In all, MSPL Ltd drilled total 15 boreholes, out of which 6 boreholes were coring and 9 boreholes were RC. On completion of the drilling activity and re-estimation of the iron ore reserves, MSPL came to know that mineral content is not adequate enough to carry out mining operations which is sharply in contrast to the reported reserves in NIT.
9. MSPL has made all best and prudent efforts using scientific methods for validation of mineral reserves and to carry out exploration & mining operations but despite this the mining operations were not possible any further as per the terms and conditions of schedule -C of the MDPA mainly due to absence of iron ore.
10. In view of the above cited reasons, we made application for surrendering of mining lease no. 0015 on 23.09.2022 to Director, Department of Mines & Geology (vide Letter no: MSPL/JIOM/DMG/2021-22)(**Annexure-1**)along with the report on the exploration carried by us (**Annexure-2**).The findings of the exploration report are clearly indicating that the iron ore in the lease area is exhausted and no more potential ore zone exists.

Considering the above points, **we are firm in surrendering the lease and will not do any mining operation in forest land and we will dispatch the stored material excavated before the expiry of the Vesting Order**. So request you to recommend for refund of NPV amount of Rs. 4,23,75,000 /- and forward the same to higher official for further process.

Thanking you,
Yours Faithfully,
**For MSPL LIMITED**

**K. Madhusudhana**
**Chief Executive Officer**

**Encl** : 1) MSPL surrender Notice vide Letter No. MSPL/JIOM/DMG/2021-22 dated 23.09.21.
2) Exploration Report.

**Copy to**: Range Forest Officer, Sandur North Range, Sandur for information.

Deputy Conservator of Forests, Ballari Division, Ballari.
Sign: ls
Dt. 10/01/23

o/c

Annexure- VII

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Tel : +91 22 22030989 Fax : +91 22 22019762 Email : mspl.mum@mspllimited.com
CIN UI3100MH1961PLC012160

MSPL/JIOM/DMG/2021-21

Date : 23/09/2021

**The Director**
**Department of Mines & Geology**
**Government of Karnataka**
**5th Floor , Khanija Bhavan, Race Course Road**
**Bengaluru – 560001**

LETTER RECEIVED
23 SEP 2021
Dept. of Mines & Geology
Bengaluru - 560001

**Sub : Notice of Surrender of Jaisingpur Iron Ore Mine, ML Deed No.0015(JIOM ) Mining Lease under Rule -21(1) of Mineral (other than atomic and hydrocarbons energy mineral) Concession Rules 2016 by MSPL limited ( MSPL) .**

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We are submitting this notice of surrender of entire area of Mining Lease pertaining to JIOM ( ML Deed no 0015 ) due to the following reasons:

1. Pursuant a notification and NIT and subsequent auction conducted by the Government of Karnataka, MSPL has been granted LOI dated 14.08.2019 followed by execution of Lease Deed no ML-0015 dated 12.08.2020 for grant of JIOM mining lease for Iron ore mineral over an area of 56 Ha situated in Jaisinghpura village, Sandur Taluka, Ballari District, Karnataka .
2. MSPL had duly complied with all the terms and conditions of the Lease Deed dated 12.8.2020 and MDPA dated 10.8.2020 and commenced its mining operations on 15.10.2020 .
3. During the excavation activity , MSPL has noticed that the mineral resource in the said ML is not as per the quantity as stated in the geological status report of the NIT dated 08.03.2019. As a result, mineral excavation was not possible due to insufficient mineral reserve in the mine .
4. Evidently, no mineral was dispatched from the mine till date though MSPL has paid royalty, DMF and NEMT charges for a miniscule quantity of 20,000 MT mineral which is presently kept stacked within in the mine awaiting necessary permit for transportation .
5. It is pertinent to note that as per NIT , MSPL is required to rely upon the estimated reserve of 2.116 Million MT as projected by the State Govt, however contrary to this estimate the actual reserve present in the mine is much less making it impractical for MSPL to undertake excavation activity in order to meet the minimum production requirement .
6. MSPL having made best efforts using scientific methods for mining operations , found that the mineral content is not adequate enough for carrying out mining operations as per terms and conditions of Schedule -C of the MDPA any further . We have made exploration to check

the resources but the results are not encouraged wrt mineral resources ( Attached copy of report as Annexure-1). A copy of intimation of exploration in Form-I , dated 26.7.2021 submitted to IBM , substantiating our claim is attached here with ( Annexure-2)

7. MSPL has made all prudent efforts to explore the feasibility of mining operations to meet the minimum dispatch requirement , however due to the absence of adequate mineral content in the said ML 0015 , MSPL is compelled to exercise its right to surrender the said ML .
8. Accordingly, we request to you to consider this a the prior notice of 12 months commencing from **23.09.21** and ending on **22.09.22**. MSPL shall provide final mine closure plan for necessary approval by IBM with immediate effect. Further, MSPL clarifies that there are no pending payments or dues payable under the mining lease to the State Government as on date.
9. We request you to refund the performance guarantee of Rs. 2,27,11,882/-, without any deductions whatso ever , as the surrender of the said lease by MSPL is occurring due to the non availability of adequate mineral reserve in the said ML 0015 , which is beyond the reasonable control of the Lessee and for such reasons not attributable to the Lessee.
10. We earnestly request you to facilitate refund of the stamp duty of Rs. 2,50,93,140/-, Registration charges Rs 50, 19,730/- as the very purpose of the availing the said mining lease is defeated due to non-availability of mineral reserve, contrary to the estimate stated in the NIT ,as provided by the Government of Karnataka.
11. Further , we reserve our right to claim for refund of the amount paid towards NPV paid Rs 4,23,75,000/- and other charges towards the said ML 0015 .
12. We request you grant us an opportunity of personal hearing for submitting further clarification in this regard if required.

Thanking you

**For MSPL Limited**

**Dr. HY. Desai**
**Vice President – Corporate Communications**

DESPATCHER
Indian Bureau of Mines
No. 29, 2nd Stage,
Industrial Suburb Goraguntepalya
Tumkur Road BANGALORE-560 022
Received
23/9/21

**Copy to :**
Regional Controller of Mines, Indian Bureau of Mines, 29, Industrial Suburb 2nd Stage, Gorguntepalya, Yeshwantpur, Bengaluru 560 022. (ro.bangalore@ibm.gov.in)

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# EXPLORATION REPORT

# JAISINGPUR IRON ORE MINE

## BY PREFERRED BIDDER M/S. MSPL LTD.

## ML. NO. 0015 (ERSTWHILE ML NO. 2531),

## JAISINGPUR VILLAGE, SANDUR TALUK, BALLARI DISTRICT, KARNATAKA STATE

## EXTENT 56.00 HA

**PREPARED BY:**

**MSPL LTD.**

# Exploration Report of JIOM

1. **Particulars of the area and Ownership:**

| | |
|---|---|
| Name of Lease Holder | MSPL Ltd. |
| Address | Baldota Enclave, Abheraj Baldota Road, Hospet - 583203 |
| Phone No. | +91 8394 232002, 232003 |
| Fax | +91 8394 232444 |
| Email: | email@mspllimited.com omsomany@gmail.com |
| ML. No. | 0015 (Erstwhile ML No. 2531) |
| Extent | 56.00 Ha |
| Forest Area | 56.00 Ha |
| Name of Forest | Sandur Reserve Forest |
| Exploration Agency | Inhouse Exploration Team of MSPL Ltd. |

2. **Infrastructure and Environment:**

The Jaisinagar Iron Ore mine is well connected by a network of roads and is easily accessible. Hospet is 16 kms from northwestern part of mine via Sandur and Siddapur village. Ballari is about 59 Kms from the mine. There are no settlements/ habitants in the lease area. The nearest village to the site is Siddapura at 3.40 kms. There are no historical sites within the vicinity of 2kms from the lease area. The lease area is itself located in reserve forest land.

Since it is forest area situated over hill of NEB range, the vegetation cover on slopes of the ML area is dry deciduous type and is sparse.

3. **Previous Geological Report:**

As per the geological report prepared by previous lessee the reserves of hematictic ore (111 category) at the time of Tender Notice (on 31st March 2019) was 2.116 Mt at an average grade of 54.4% Fe. The EC approval of the lessee was for 1,20,000 tons of iron ore production per year. Therefore, the actual reserves as on 31st Match, 2020 should be 1.996 Mt.

As per the geological report, there is one reef or band of iron ore which extends for a length 637 m, average width is 94 m (50m-200 m as per map), and average depth is 24m and beyond this depth BHQ lies. This reef of band trends north easterly adjacent to SBM mine and steeply dips easterly. Mainly this reef has been mined by the lessee under his lease period, known as PIT-1. The PIT-1 has been a major pit for production. The geological map from the geological report is presented below. The lessee carried out exploration by about 15 bore holes by core drilling, all these boreholes were drilled in 2013-14.

Fig-1: Geological map of JIOM mine as per GR

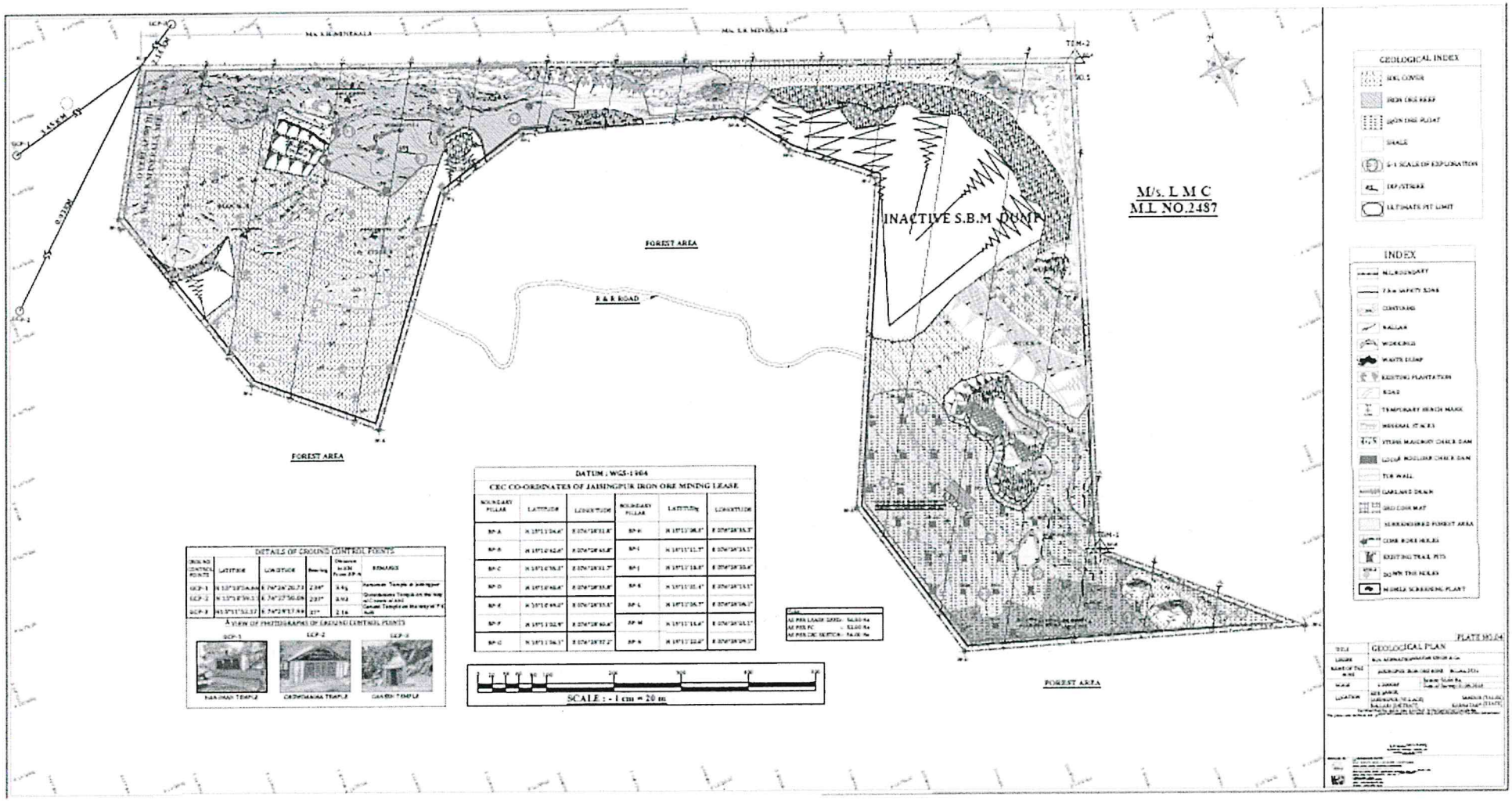


Table -1: The details of the core boreholes drilled by previous lessee

| CORE BORE HOLE LOCATIONS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| S.NO | YEAR | BOREHOLE ID | EASTING | NORTHING | DEPTH | COLLAR LEVEL IN MSL | DIA IN MM | ANGLE |
| 1 | 2013-14 | CBH-1 | N15°11'20.394" | E076°28'11.686" | 23.5 | 878 | 150 | 90 |
| 2 | | CBH-2 | N15°11'18.630" | E076°28'12.746" | 17 | 874 | 150 | 90 |
| 3 | | CBH-3 | N15°11'17.889" | E076°28'16.728" | 23 | 888 | 150 | 90 |
| 4 | | CBH-4 | N15°11'16.981" | E076°28'16.253" | 21.5 | 884 | 150 | 90 |
| 5 | | CBH-5 | N15°11'14.532" | E076°28'22.468" | 20 | 885 | 150 | 90 |
| 6 | | CBH-6 | N15°11'13.432" | E076°28'21.455" | 20 | 885 | 150 | 90 |
| 7 | | CBH-7 | N15°11'12.980" | E076°28'26.009" | 15 | 886 | 150 | 90 |
| 8 | | CBH-8 | N15°11'10.122" | E076°28'35.002" | 09 | 895 | 150 | 90 |
| 9 | | CBH-9 | N15°11'05.516" | E076°28'47.702" | 10 | 902 | 150 | 90 |
| 10 | 2015-16 | CBH10 | N15°11'19.098" | E076°28'10.907" | 10 | 870 | 150 | 90 |
| 11 | | CBH11 | N15°11'17.777" | E076°28'13.913" | 21 | 877 | 150 | 90 |
| 12 | | CBH12 | N15°11'15.448" | E076°28'16.678" | 20 | 886 | 150 | 90 |
| 13 | | CBH13 | N15°11'13.746" | E076°28'18.341" | 15 | 867.6 | 150 | 90 |
| 14 | | CBH14 | N15°11'14.186" | E076°28'15.698" | 10 | 870 | 150 | 90 |
| 15 | | CBH15 | N15°11'11.861" | E076°28'17.893" | 10 | 865 | 150 | 90 |

Apart from the core drilling previous lessee also carried out DTH drilling mainly in pit no.1 as shown in the table 2 below.

**Table No.2: The details of the DTH boreholes**

| DTH BOREHOLE LOCATIONS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| S.NO | YEAR | BOREHOLE ID | EASTING | NORTHING | DEPTH | COLLAR LEVEL IN MSL | DIA IN MM | ANGLE |
| 1 | 2017-18 | DTH-1 | N15°11'05.149" | E076°28'49.140" | 16 | 891.78 | 60 | 90 |
| 2 | | DTH-2 | N15°11'04.138" | E076°28'49.401" | 16 | 892.38 | 60 | 90 |
| 3 | | DTH-3 | N15°11'04.136" | E076°28'49.803" | 16 | 894.00 | 60 | 90 |
| 4 | | DTH-4 | N15°11'04.098" | E076°28'50.641" | 16 | 892.30 | 60 | 90 |
| 5 | | DTH-5 | N15°11'04.848" | E076°28'50.411" | 16 | 890.10 | 60 | 90 |
| 6 | | DTH-6 | N15°10'54.713" | E076°28'47.694" | 16 | 859.10 | 60 | 90 |

Previous lessee has calculated the reserves by employing the 'Sectional Area Method'. Sections were drawn along boreholes at an average interval of 50m. The influence of two consecutive sections were taken by averaging these areas and this was multiplied by the distance between these two sections to arrive at the gross volume. The volume thus calculated was multiplied by the specific gravity of 3.0 for Iron Ore reef & float and 2.8 for Hematitic siliceous ore to determine the gross in- situ reserves in tons.

**Table-3: The Total category- wise updated Reserve and Resource as on furnished in the below table as on 31.08.2018**

| Classification | UNFC Code | Quantity inmillion tons | | | Grade | |
|---|---|---|---|---|---|---|
| (1) | (2) | (3) | | | (4) | |
| **Total Mineral Resources (A + B)** | | **Hematitic Ore** | | **Hematic Siliceous Ore** | **Fe%** | **Fe%** |
| | | **Iron Ore** | **Float Ore** | | | |
| **A. Mineral Reserve** | | | | | | |
| (1) Proved Mineral Reserve | 111 | 2.007 | 0.176 | 0.406 | +45 % | +35 % |
| (2) Probable Mineral Reserve | 122 | -- | -- | -- | -- | -- |
| **B. Remaining Resources** | | -- | -- | -- | -- | -- |
| (1)Feasibility Mineral Resource | 211 | 0.694 | 0.191 | 0.285 | +45 % | +35 % |
| (2) Prefeasibility Mineral Resource | 222 | -- | -- | -- | -- | -- |
| (3) Measured Mineral Resource | 331 | -- | -- | -- | -- | -- |
| (4) Indicated Mineral Resource | 332 | -- | -- | -- | -- | -- |
| (5) Inferred Mineral Resource | 333 | -- | -- | -- | -- | -- |
| (6) Reconnaissance Mineral Resource | 334 | -- | -- | -- | -- | -- |
| **Sub-Total** | | **2.701** | **0.367** | **0.691** | +45 % | +35 % |
| **Total** | | **3.068** | | **0.691** | +45 % | +35 % |
| **Grand Total** | | **3.759** | | | +45 % | +35 % |

During the period 2018-19 from the date of estimation of reserves i.e. 31.08.2018, the Hematitic ore (111 category) is **2.183 million tons** (2.007MT + 0.176MT) and from 31.08.2018 to 01.03.2019, 0.067 tons have been depleted. The remaining mineral reserves are **2.116 million tons**. As per the report the proved reserves (111) of iron ore 2.007 Mt should fall in pit no.1.

## 4. Geology

Geologically, Phyllites –Quartzites are forming the base of the hills. The Banded Hematite Jaspers (BHJ) the important source rocks for the iron ore in the area are prominent in the northern and western part of hill ranges. In the southern and eastern part shales become more prominent. The Iron ore forms a cover over the quartzites and shale. Laterization is widespread over most of the flat top ridges.

Structurally, the Sandur hills formed a tightly folded Synclinorium plunging gently towards NNW. The strike of the ore bodies is generally parallel to the trend of the hill ranges. The dips often steep, being vertical at many places.

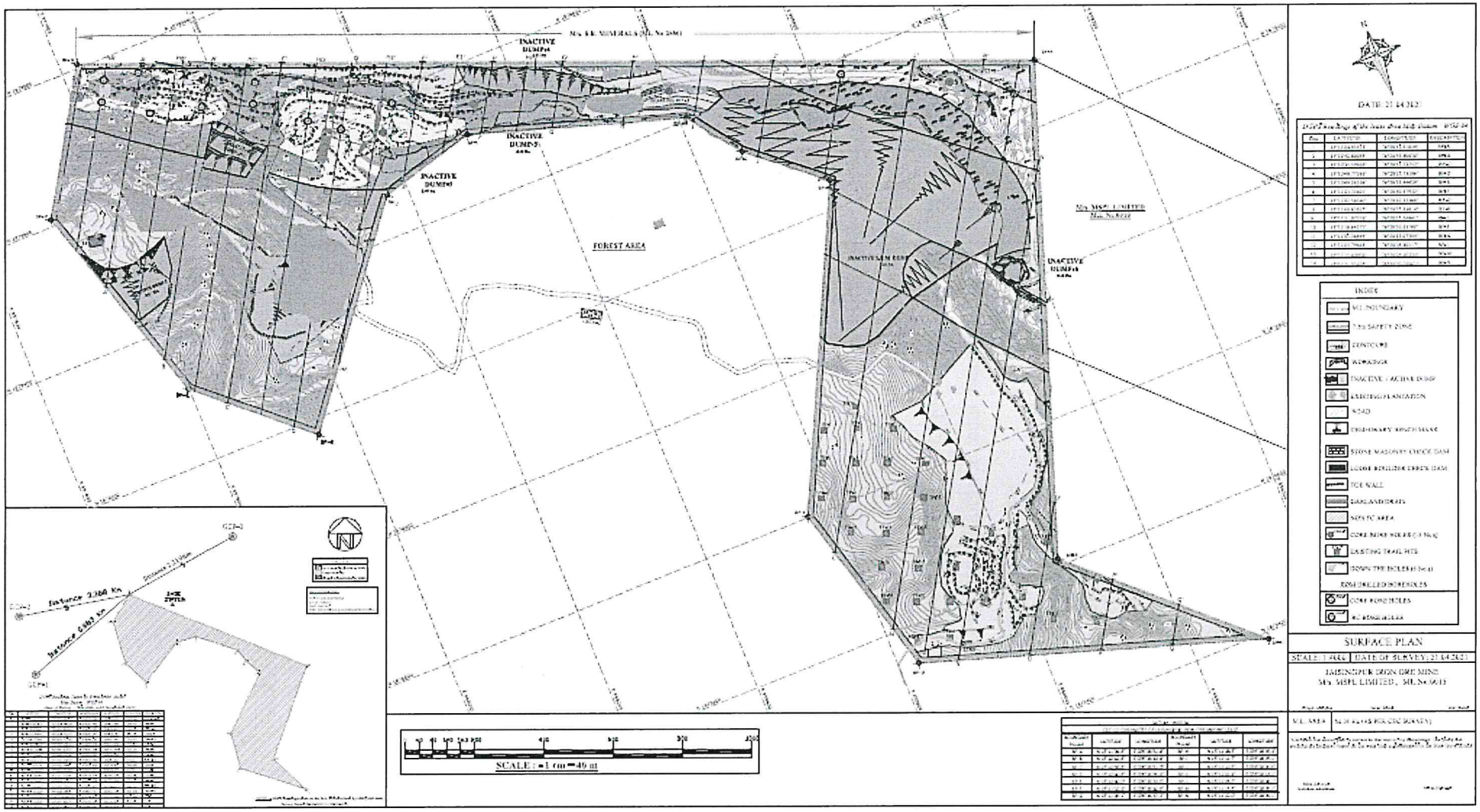
The type of deposit is Stratiform, Stratabound and Tabular deposits of Irregular Habit. The general sequence of the rock formations found in the area is given below:

- **Soil Cover**
- **Laterite/Lateritised Ore**
- **Banded Ferruginous quartzites/Jaspers**
- **Ferruginous shales and Phyllites**
- **Iron OreFormations**

**Reef:** There are three iron ore reefs in the area. The general strike direction is NW- SE and dips are 60°-65° NE. However, the present 56.00 Ha lease area has only one reef exposed at the surface and excavations made so far in the north-western direction of the lease area. The ore body is outcropping all along the strike length in the mining lease area. The iron ore band is exposed over most of the run of the hill ridge.

The present geological map of the ML is shown in Fig-2, which shows that the Iron ore zone is not wide as shown in GR and only scanty mineralization is observed and rest of the zone is marked with BHQ.

Fig-2: Present Geological Map JIOM mapped by MSPL Ltd.



## 5. Geochemical Data

Geochemical analysis of borehole samples is analyzed.

## 6. Technological Investigation (Geological Mapping/Pitting/Trenching/Drilling)

During mining, it was found that the quantity of iron ore as reported in the Geological Report by previous lessee (Table-3) was not existing in pit no. 1 as well as in the float ore area. The production of 1,20,000 tons of iron ore became difficult to achieve. This led MSPL Ltd. to re-explore the potential zone falling in pit no.1 of previous lessee. Exploration team of MSPL Ltd. has carried out detailed geological mapping of the ML area and found that the ore zone was not long and wide as mentioned in GR. It was observed that major part of the pit no.1 (main pit) was covered with waste rock and remaining area with BHQ (Banded Hematite Quartzite) with only minor ore bands.

To confirm the surface geological observations, exploration team carried out the subsurface exploration and proposed coring and RC boreholes. The exploration plan of core drilling mainly in the waste filled area to confirm the ore below it as per the borehole locations and its ore containing lithology shown in the GR. The part which was covered by waste material was targeted first for resource confirmation. The exploration team drilled 6 coring boreholes. It was found that there was a big difference in the iron ore bands borehole wise what was reported and what is available which is presented in the table – 6 below:

**a. Exploration by Coring Boreholes:** As per GR, all boreholes should be contributing to the available resources for mining reported at the time of reporting and present RL. But as per current situation most of the borehole location or mining area is filled with dump without indication of ore. Hence, a decision was taken to confirm the mineralization in backfilled or dump area and re- drilling was conducted using core drilling. A total of 6 boreholes were drilled by core drilling as shown in Table-6 below.

Table-4: Details of coring boreholes drilled by MSPL Ltd.

| Sr. No | BH NO | Easting | Northing | RL | Depth (M) | Angle |
|---|---|---|---|---|---|---|
| 1 | JCBH-01 | 657900 | 1679759 | 879 | 19.80 | 90° |
| 2 | JCBH-02 | 657985 | 1679701 | 874 | 30.70 | 90° |
| 3 | JCBH-03 | 657970 | 1679684 | 862 | 18.00 | 90° |
| 4 | JCBH-04 | 658052 | 1679685 | 883 | 26.60 | 90° |
| 5 | JCBH-05 | 658038 | 1679657 | 882 | 13.00 | 90° |
| 6 | JCBH-06 | 658224 | 1679582 | 880 | 14.70 | 90° |
| | | | | | **122.80** | |

The results of the re-drilling of these bore holes are shown in the table -5 below.

Table-5: Av Fe analysis of the iron ore bands of redrilled boreholes

| Sr. No. | BHID | Old BH ID as per GR | Collar RL (m) | Iron Ore | | Thickness(m) | Fe % |
|---|---|---|---|---|---|---|---|
| | | | | From(m) | (m) | | |
| 1 | JCBH-01 | CBH-1 | 879 | 0.00 | 15.00 | 15.00 | 62.36 |
| | | CBH-1 | 879 | 17.00 | 18.00 | 1.00 | 46.02 |
| 2 | JCBH-2* | - | 874 | 0.00 | 18.00 | 18 | 60.01 |
| 3 | JCBH-03 | CBH-11 | 862 | 6.00 | 14.00 | 8.00 | 50.01 |
| 4 | JCBH-04 | CBH-3 | 883 | 8.00 | 20.00 | 12.00 | 58.55 |
| 5 | JCBH-05 | CBH-04 | 882 | 0.00 | 13.00 | 13.00 | 26.20 |
| 6 | JCBH-06 | CBH-5 | 880 | 0.00 | 14.70 | 14.7 | 9.59 |

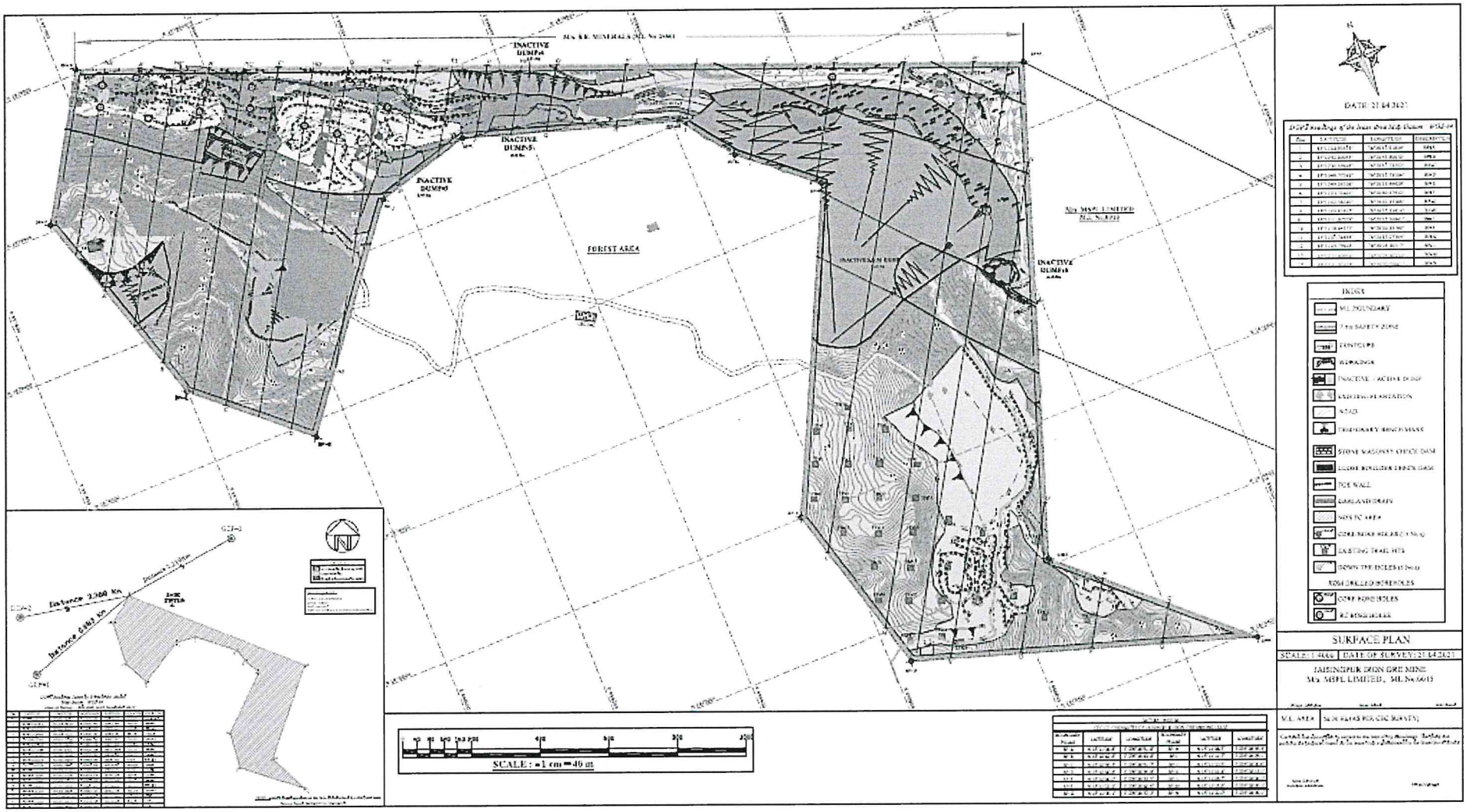
On comparing the results of core drilling with bands as reported in GR, it was found that there was a big difference in the iron ore bands what was reported and what is available and the same is presented in the table- 6 below.

Table- 6: Comparison of ore bands as per GR and ore bands identified by MSPL's exploration (drilling)

| Bands as per GR by Previous Lessee | | | | | | | | New bands based on MSPL's exploration (drilling) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OLD BH ID as per GR | Section Line | Old RL | End RL of ore | From | To | Thickness | Fe | MSPL's BH ID | OLD BH ID as per GR | RL | From | To | Thickness | Fe % |
| CBH-1 | A-A' | 878 | 855.00 | 0.00 | 23.00 | 23.00 | 61.04 | JCBH-01 | CBH-1 | 879 | 0.00 | 15.00 | 15.00 | 62.36 |
| | | | | | | | | | | 879 | 17.00 | 18.00 | 1.00 | 46.02 |
| CBH-11 | B-B' | 877 | 856.00 | 0.00 | 21.00 | 21.00 | 56.14 | JCBH-03 | CBH-11 | 862 | 6.00 | 14.00 | 8.00 | 50.01 |
| CBH-3 | C-C' | 888.00 | 865.00 | 0.00 | 23.00 | 23.00 | 60.16 | JCBH-04 | CBH-3 | 883 | 8.00 | 20.00 | 12.00 | 58.55 |
| CBH-4 | C-C' | 884.00 | 866.50 | 2.50 | 20.00 | 17.50 | 62.14 | JCBH-05 | CBH-04 | 882 | 0.00 | 13.00 | 13.00 | 26.20 |
| CBH-5 | E-E' | 885.00 | 867.50 | 0.50 | 18.00 | 17.50 | 60.71 | JCBH-06 | CBH-5 | 880 | 0.00 | 14.70 | 14.7 | 9.59 |

**b. Exploration by RC Borehole:** Exploration by RC drilling was planned to look for the iron ore availability below the dumps and at depth due to dipping orebody. A total 373m drilling was done covering nine boreholes as shown in the Fig-3: below.

Fig 3: Plan showing the coring and RC Bore hole location drilled by MSPL Ltd.



The details of the RC borehole drilled are shown in the Table -7 below:

Table 7: Details of RC Boreholes drilled by MSPL Ltd.

| Sr. No | BH NO | Easting | Northing | RL | Depth (M) | Angle |
|---|---|---|---|---|---|---|
| 1 | JRBH-07 | 658962 | 1678998 | 858 | 22.00 | 90° |
| 2 | JRBH-08 | 657852 | 1679770 | 879 | 65.00 | 60° |
| 3 | JRBH-09 | 657841 | 1679745 | 860 | 40.00 | 60° |
| 4 | JRBH-10 | 657959 | 1679727 | 877 | 65.00 | 60° |
| 5 | JRBH-11 | 657896 | 1679700 | 858 | 35.00 | 60° |
| 6 | JRBH-12 | 658086 | 1679668 | 883 | 66.00 | 60° |
| 7 | JRBH-13 | 658046 | 1679624 | 880 | 50.00 | 60° |
| 8 | JRBH-14 | 658103 | 1679604 | 861 | 18.00 | 90° |
| 9 | JRBH-15 | 658143 | 1679575 | 860 | 12.00 | 90° |
| | | | | | **373.00** | |

The details of lithology and Fe analysis of the boreholes is shown in the table-8 below.

Table-8: Summary of Lithology and Fe analysis of RC boreholes

| Section | BHID | FROM | TO | THICKINESS | Fe | Litho | Remark |
|---|---|---|---|---|---|---|---|
| N | JRBH-7 | 0.00 | 1.00 | 1.00 | 37.30 | Waste | Back filled Material |
| | | 1.00 | 8.00 | 7.00 | 47.10 | HSO | Hematitic silicious ore |
| | | 8.00 | 22.00 | 14.00 | 29.50 | BHQ | BHQ |
| | | | | | | | |
| HA | JRBH-8 | 0.00 | 1.00 | 1.00 | 26.10 | Waste | Back filled Material |
| | | 1.00 | 7.00 | 6.00 | 28.50 | BHQ | BHQ |
| | | 7.00 | 32.00 | 25.00 | 35.50 | HSO | Hematitic silicious ore |
| | | 32.00 | 65.00 | 33.00 | 27.03 | BHQ/BHJ | BHQ/BHJ |
| | | | | | | | |
| | JRBH-9 | 0.00 | 1.00 | 1.00 | 33.06 | Waste | Back filled Material |
| | | 1.00 | 6.00 | 5.00 | 18.23 | Shale | shale |
| | | 6.00 | 40.00 | 34.00 | 27.59 | BHQ | BHQ |
| | | | | | | | |
| HB | JRBH-10 | 0.00 | 1.00 | 1.00 | 27.92 | Waste | Back filled Material |
| | | 1.00 | 5.00 | 4.00 | 41.15 | Po | powdery low gr. ore |
| | | 5.00 | 14.00 | 9.00 | 27.05 | Shale | yellowish shale |
| | | 14.00 | 65.00 | 51.00 | 25.12 | BHQ | BHQ |
| | | | | | | | |
| | JRBH-11 | 0.00 | 1.00 | 1.00 | 36.19 | Waste | Back filled Material |
| | | 1.00 | 23.00 | 22.00 | 26.22 | BHQ | BHQ |
| | | 23.00 | 28.00 | 5.00 | 26.86 | Shale | BHQ interbedded with shale |
| | | 28.00 | 35.00 | 7.00 | 27.00 | BHQ | BHQ |
| | | | | | | | |
| C | JRBH-12 | 0.00 | 2.00 | 2.00 | 37.60 | Waste | Back filled Material |
| | | 2.00 | 7.00 | 5.00 | 28.30 | BHQ/BHJ | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | 7.00 | 11.00 | 4.00 | 38.30 | HSO/BHQ | hematitic silicous ore/BHQ |
| | | 11.00 | 66.00 | 55.00 | 22.50 | BHQ | |
| | | | | | | | |
| | JRBH-13 | 0.00 | 11.00 | 11.00 | 29.75 | BHJ/BHQ | BHJ/BHQ |
| | | 11.00 | 13.00 | 2.00 | 30.66 | SHALE | shale/phyllite |
| | | 13.00 | 50.00 | 37.00 | 24.02 | BHJ/BHQ | BHJ/BHQ |
| | | | | | | | |
| HD | JRBH-14 | 0.00 | 3.00 | 3.00 | 62.66 | ORE | dark grey ore |
| | | 3.00 | 4.00 | 1.00 | 46.91 | SHALE +PO | shale with powdery ore |
| | | 4.00 | 11.00 | 7.00 | 37.33 | HSO/BHQ | hematitic silicous ore/BHQ |
| | | 11.00 | 18.00 | 7.00 | 30.66 | BHQ | friable BHQ |
| | | | | | | | |
| D | JRBH-15 | 0.00 | 7.00 | 7.00 | 61.64 | ORE | dark grey ore |
| | | 7.00 | 9.00 | 2.00 | 39.99 | ORE | low gr. Ore |
| | | 9.00 | 12.00 | 3.00 | 32.39 | BHQ | friable BHQ |

**7. Location of Data Points:**

Detailed topographic survey using total station instrument was carried out to ascertain the elevation and bore hole collar points. The fixing up of the borehole is done using the total station and handheld GPS. While fixing the borehole, the site condition like elevation, accessibility to approach the borehole is made. The mine working bench are surveyed by total station.

**8. Drilling Technique and Drilling Sampling Employed:**

Physically, the iron ore is fine grained, dark brown and reddish grey in colour and is of powdery nature. For most of the part, thin to very thin bands of iron ore are occurring on higher RL. The lower parts of the mine lease area have mostly shale/BHQ. The core obtained form core drilling is sampled at 1m interval, and powder obtained from RC drilling is sampled at 1m interval. A total no. of 497 samples were collected from both Core and RC drilling work. The collected sample is sent for analysis of radicals Fe, SiO2, Al2O3, P. The weighted average of fe% is calculated.

**9. Quality of Assay data and Laboratory Test:**

Every meter wise run sample is tested at MSPL Ltd.'s VIOM lab and every five meter interval sample is analysed at NABL lab.

**10. Moisture:**

The tonnage is estimated on dry condition. Mined material is dry to saturated and it is free draining when stockpiled.

**11. Bulk Density:**

The bulk density for iron ore in this mine is considered 3.0t/Cu.M. and for hematitic siliceous ore the bulk density is considered 2.8 t/Cu.M.

**12. Resource Estimation and Techniques:**

From the geological mapping and drilling it has been found that iron ore occurs in thin and small bands without much extension. The widths of the lenses/bands have been mapped and depths were determined by the drilling. The geological cross sections were drawn along boreholes at an average interval of 50m and is attached as annexure -1. The sectional area influence method of resource estimation is deployed and the influence of two consecutive sections were taken by averaging these areas and this was multiplied by the distance between these two sections to arrive at the gross volume. The bulk density for hematitic iron ore is considered 3.0t/Cu.M. and for hematitic siliceous ore the bulk density is considered 2.8 t/Cu.M. The volume thus calculated was multiplied by the specific gravity of 3.0 for Iron Ore and 2.8 for Hematitic siliceous ore to determine the gross in- situ reserves in tons. The core recovery for the coring boreholes is measured and is varying from BH to BH (from 79% to 90%). The reserve estimation is shown in Table - 11 and classification of mineral resource is shown in Table -12. The overall, average core recovery is 84%. The surface exposure is considered for assuming the termination of ore, shale/BHQ.

Table – 11: Geological Resources at JIOM

| S.No. | Sections | BH ID | Depth (m) | Angle | Ore Type | True_ width_ mts | Area_Sq mts | Influence (m) | Core Recovery | Recovery Volume_ Cmts | BD | Res._Tons | Grade%Fe | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | HA-HA' | JRBH -8 | 65 | 60° | HSO | 19.00 | 328 | 30 | | 9854 | 2.8 | 25620 | 35.5 | |
| | | JRBH -9 | 40 | 60° | - | | | | | | | 0 | | |
| 2 | A-A' | JCBH -1 | 19.8 | 90° | IO | 5.13 | 18 | 36 | 82% | 533 | 3 | 1600 | 62.36 | |
| 3 | HB-HB' | JRBH-10 | 65 | 60° | HSO | 2.29 | 20 | 30 | | 588 | 3 | 1765 | 62.3 | |
| | | JRBH-11 | 35 | 60° | - | | | | | | | 0 | | |
| 4 | B-B' | JCBH-2 | 30.7 | 90° | IO | 3.00 | 57 | 38 | 79% | 1696 | 3 | 5088 | 53.37 | |
| 5 | | JCBH-3 | 18 | 90° | IO | 2.35 | 60 | 37 | 81% | 1813 | 3 | 5438 | 50.01 | |
| 6 | HC-HC' | JCBH-4 | 26.6 | 90° | IO | 4.00 | 55 | 45 | 82% | 2024 | 3 | 6071 | 58.55 | |
| | | JCBH-5 | 13 | 90° | - | | | | 90% | | | 0 | | |
| 7 | C-C' | JRBH-12 | 66 | 60° | HSO | 3.00 | 34 | 30 | | 1034 | 3 | 3102 | 38.3 | |
| | | JRBH-13 | 50 | 60° | - | | | | | | | 0 | | |
| 8 | HD-HD' | JRBH-14 | 18 | 90° | IO | 1.40 | 19 | 35 | | 673 | 3 | 2018 | 58.73 | |
| | | JRBH-14 | 18 | 90° | HSO | 2.40 | 34 | 35 | | 1194 | 2.8 | 3104 | 37.33 | |
| 9 | D-D' | JRBH-15 | 12 | 90° | IO | 2.40 | 57 | 23 | | 1320 | 3 | 3959 | 61.66 | |
| | | JRBH-15 | 12 | 90° | HSO | 0.68 | 17 | 23 | | 395 | 2.8 | 1026 | 39.99 | |
| 10 | HE-HE' | JCBH-6 | 14.7 | 90° | - | | | | 89% | | | 0 | | |
| 11 | N-N' | JRBH-7 | 22 | 90° | HSO | 4.00 | 112 | 24 | | 2682 | 2.8 | 6972 | 47.1 | |
| | | | | | | | | | | | | 44413 | 41 | HSO RESERVE* |
| | | | | | | | | | | | | 24174 | 56 | IO RESERVE** |
| | | | | | | | | | | | | 68587 | 46.05 | TOTAL RES |

*HSO- Hematitic Siliceous Ore (35% Fe cut off grade)

**IO-Iron Ore (45% Fe cut off grade)

**Table -12: Classification of Mineral Resources:**

| Classification | UNFC Code | Quantity (in million tons) and Grade (%) | | | |
|---|---|---|---|---|---|
| 1 | 2 | 3 | | | 4 |
| **Total Mineral Resources** | | **Hematitic Ore (Qty)** | **Hematitic Ore grade (Fe%)** | **Hematic Siliceous Ore (Qty)** | **Hematic Siliceous Ore grade (Fe%)** |
| **A. Mineral Reserve** | | | | | |
| (1) Proved Mineral Reserve | 111 | 0.0114 | 56% | 0.0444 | 41% |
| (2) Probable Mineral Reserve | 122 | -- | -- | -- | -- |
| **B. Remaining Resources** | | -- | -- | -- | -- |
| (1) Feasibility Mineral Resource | 211 | 0.0128 | 56% | -- | -- |
| (2) Prefeasibility Mineral Resource | 222 | -- | | -- | -- |
| (3) Measured Mineral Resource | 331 | -- | | -- | -- |
| (4) Indicated Mineral Resource | 332 | -- | | -- | -- |
| (5) Inferred Mineral Resource | 333 | -- | | -- | -- |
| (6) Reconnaissance Mineral Resource | 334 | -- | | -- | -- |
| **Sub-Total** | | **0.0242** | | **0.0444** | |
| **Grand Total** | | **0.0686** | | | |
| **Weighted Average Grade** | | **44.23%** | | | |

*The threshold limit as prescribed by IBM for Hematitic Ore is Fe +45% & for Hematitic Siliceous Ore is 35%.*

**Note: The minable and saleable resource available is only 0.0114 Mt as per the table above and the same is already mined out. The net resource of directly salable iron ore is now negligible.**

**13. Further Work:**

No further work is envisaged as the mines does not contain any more mineable mineral resource.

**14. Annexure/Enclosure to The Report:**

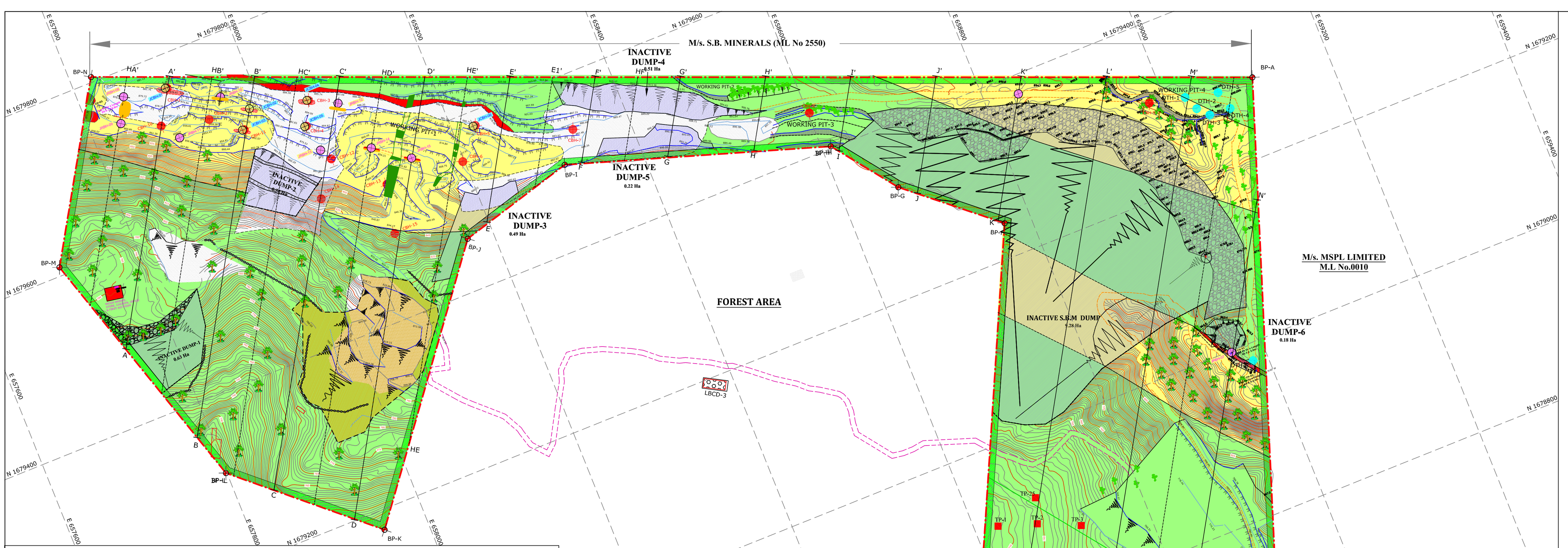
Maps and Sections are attached as

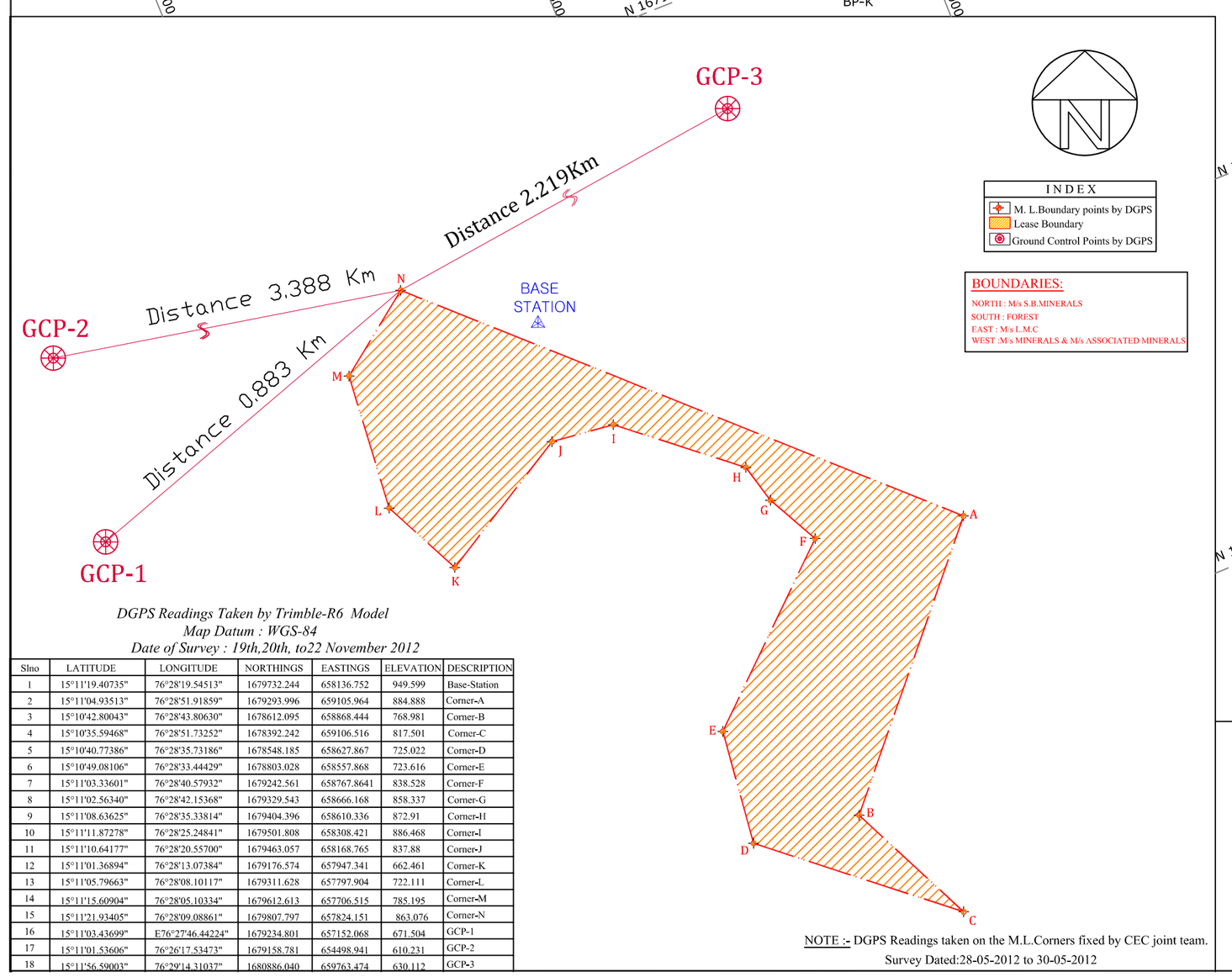
**15. Any Other Information as may be available or required by any authority as prescribed.**

No other information is required by any other authority.

**16. Summary and Conclusion:**

During the exploration it was found Jaisinghpur Iron Ore mine has very limited resources mostly characterized by thin bands of 2-4 m width with limited extension, and currently there is no resource available to sustain the mining operations. Our verification with a closer interval of drilling reveals the exact position of thin ore body.




*DGPS Readings Taken by Trimble-R6 Model*
*Map Datum : WGS-84*
*Date of Survey : 19th,20th, to22 November 2012*

| Slno | LATITUDE | LONGITUDE | NORTHINGS | EASTINGS | ELEVATION | DESCRIPTION |
|---|---|---|---|---|---|---|
| 1 | 15°11'19.40735" | 76°28'19.54513" | 1679732.244 | 658136.752 | 949.599 | Base-Station |
| 2 | 15°11'04.93513" | 76°28'51.91859" | 1679293.996 | 659105.964 | 884.888 | Corner-A |
| 3 | 15°10'42.80043" | 76°28'43.80630" | 1678612.095 | 658868.444 | 768.981 | Corner-B |
| 4 | 15°10'35.59468" | 76°28'51.73252" | 1678392.242 | 659106.516 | 817.501 | Corner-C |
| 5 | 15°10'40.77386" | 76°28'35.73186" | 1678548.185 | 658627.867 | 725.022 | Corner-D |
| 6 | 15°10'49.08106" | 76°28'33.44429" | 1678803.028 | 658557.868 | 723.616 | Corner-E |
| 7 | 15°11'03.33601" | 76°28'40.57932" | 1679242.561 | 658767.8641 | 838.528 | Corner-F |
| 8 | 15°11'02.56340" | 76°28'42.15368" | 1679239.543 | 658666.168 | 858.337 | Corner-G |
| 9 | 15°11'08.63625" | 76°28'35.33814" | 1679404.396 | 658610.336 | 872.91 | Corner-H |
| 10 | 15°11'11.87278" | 76°28'25.24841" | 1679501.808 | 658308.421 | 886.468 | Corner-I |
| 11 | 15°11'10.64177" | 76°28'20.55700" | 1679463.057 | 658168.765 | 837.88 | Corner-J |
| 12 | 15°11'01.36894" | 76°28'13.07384" | 1679176.574 | 657947.341 | 682.461 | Corner-K |
| 13 | 15°11'05.79663" | 76°28'08.10117" | 1679311.628 | 657797.904 | 722.111 | Corner-L |
| 14 | 15°11'15.60904" | 76°28'05.10334" | 1679612.613 | 657706.515 | 785.195 | Corner-M |
| 15 | 15°11'21.93495" | 76°28'09.08861" | 1679807.797 | 657824.151 | 863.076 | Corner-N |
| 16 | 15°11'01.43699" | 076°27'46.44224" | 1679234.801 | 657152.068 | 671.594 | GCP-1 |
| 17 | 15°10'17.53473" | 76°29'17.53473" | 1679158.781 | 654498.941 | 610.231 | GCP-2 |
| 18 | 15°11'56.59003" | 76°29'14.31037" | 1680886.040 | 659763.474 | 630.112 | GCP-3 |

NOTE :- DGPS Readings taken on the M.L.Corners fixed by CEC joint team.
Survey Dated:28-05-2012 to 30-05-2012

SCALE -1:4000

*DGPS Readings of the lease area Map Datum : WGS-84*

| Slno | LATITUDE | LONGITUDE | DESCRIPTION |
|---|---|---|---|
| 1 | 15°11'04.93513" | 76°28'51.91859" | BP-A |
| 2 | 15°10'42.80043" | 76°28'43.80630" | BP-B |
| 3 | 15°10'35.59468" | 76°28'51.73252" | BP-C |
| 4 | 15°10'40.77386" | 76°28'35.73186" | BP-D |
| 5 | 15°10'49.08106" | 76°28'33.44429" | BP-E |
| 6 | 15°11'03.33601" | 76°28'40.57932" | BP-F |
| 7 | 15°11'02.56340" | 76°28'42.15368" | BP-G |
| 8 | 15°11'08.63625" | 76°28'35.33814" | BP-H |
| 9 | 15°11'11.87278" | 76°28'25.24841" | BP-I |
| 10 | 15°11'10.64177" | 76°28'20.55700" | BP-J |
| 11 | 15°11'01.36894" | 76°28'13.07384" | BP-K |
| 12 | 15°11'05.79663" | 76°28'08.10117" | BP-L |
| 13 | 15°11'15.60904" | 76°28'05.10334" | BP-M |
| 14 | 15°11'21.93495" | 76°28'09.08861" | BP-N |

INDEX

- M.L.BOUNDARY
- 7.5m SAFETY ZONE
- CONTOURS
- WORKINGS
- INACTIVE / ACTIVE DUMP
- EXISTING PLANTATION
- ROAD
- TEMPORARY BENCH MARK
- STONE MASONRY CHECK DAM
- LOOSE BOULDER CHECK DAM
- TOE WALL
- GARLAND DRAIN
- NON FC AREA
- CBH-15 CORE BORE HOLES (15 No.s)
- TP-21 EXISTING TRAIL PITS
- DTH-2 DOWN THE HOLES (6 No.s)

JIOM DRILLED BOREHOLES

- CORE BORE HOLES
- RC BORE HOLES

| DATUM : WGS 84 | | | | | |
|---|---|---|---|---|---|
| CEC CO-ORDINATES OF JAISINGPUR IRON ORE MINING LEASE | | | | | |
| BOUNDARY PILLAR | LATITUDE | LONGITUDE | BOUNDARY PILLAR | LATITUDE | LONGITUDE |
| BP-A | N 15°11'04.6" | E 076°28'51.8" | BP-H | N 15°11'08.5" | E 076°28'35.3" |
| BP-B | N 15°10'42.6" | E 076°28'43.8" | BP-I | N 15°11'11.7" | E 076°28'25.1" |
| BP-C | N 15°10'35.5" | E 076°28'51.7" | BP-J | N 15°11'10.5" | E 076°28'20.6" |
| BP-D | N 15°10'40.6" | E 076°28'35.8" | BP-K | N 15°11'01.4" | E 076°28'13.1" |
| BP-E | N 15°10'49.0" | E 076°28'33.5" | BP-L | N 15°11'05.7" | E 076°28'08.1" |
| BP-F | N 15°11'02.9" | E 076°28'40.6" | BP-M | N 15°11'15.6" | E 076°28'05.1" |
| BP-G | N 15°11'06.1" | E 076°28'37.2" | BP-N | N 15°11'22.0" | E 076°28'09.1" |

# SURFACE PLAN

SCALE: 1:4000 | DATE OF SURVEY: 21.04.2021

JAISINGPUR IRON ORE MINE
M/s. MSPL LIMITED., ML.No.0015

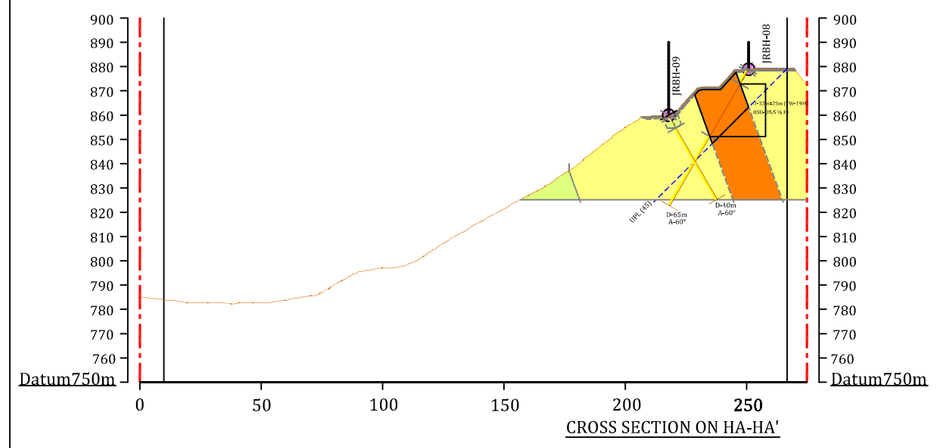
Village: Jaisingpur | Taluk: Sandur | Dist: Ballari

M.L. AREA | 56.00 Ha (AS PER CEC SURVEY)

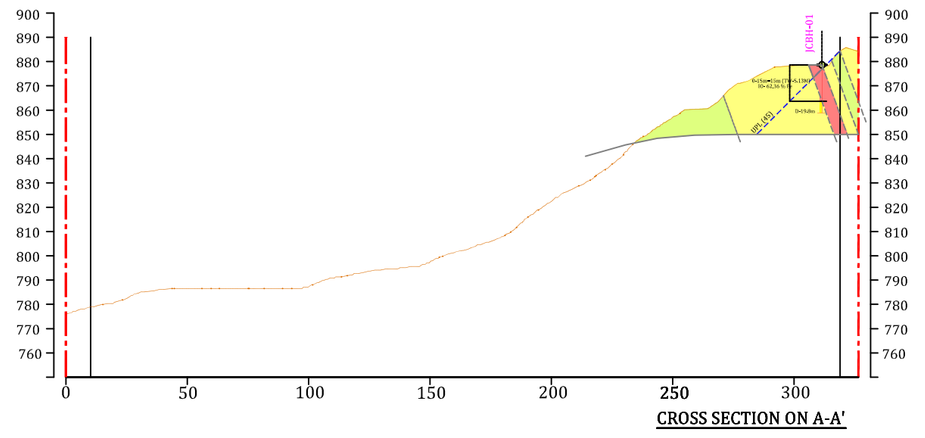
"Certified that above plan is correct to the best of my knowledge. The plans and sections are prepared based on the lease map authenticated by the State Government"

Mine Surveyor
S.MURALI KRISHNAN

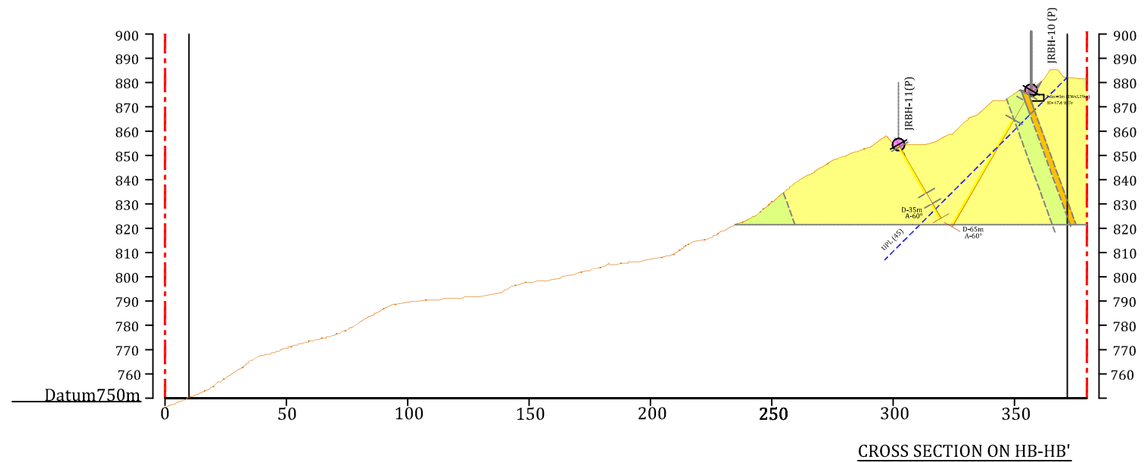
Mines Manager




CROSS SECTION ON HA-HA'




CROSS SECTION ON A-A'

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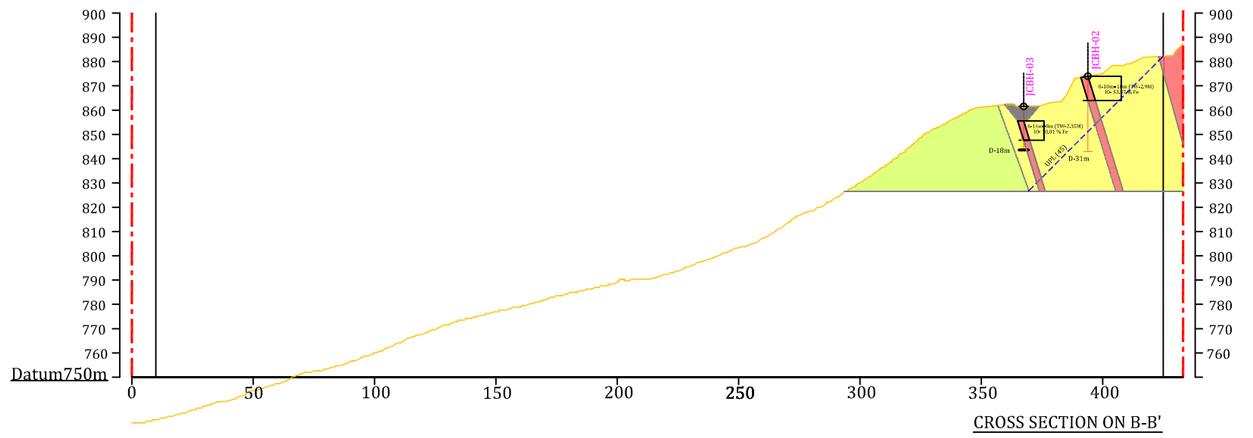


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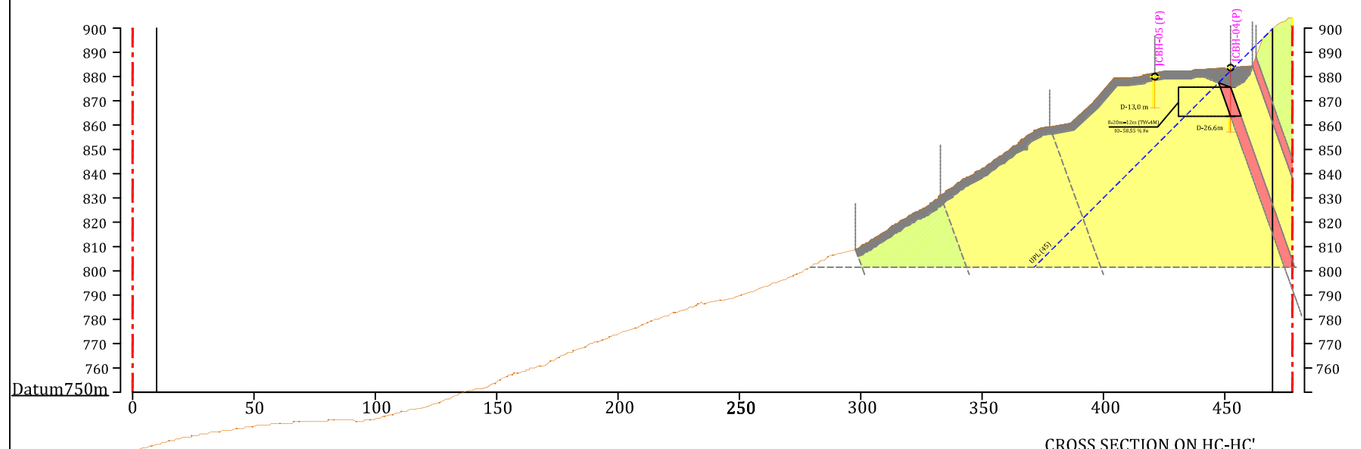
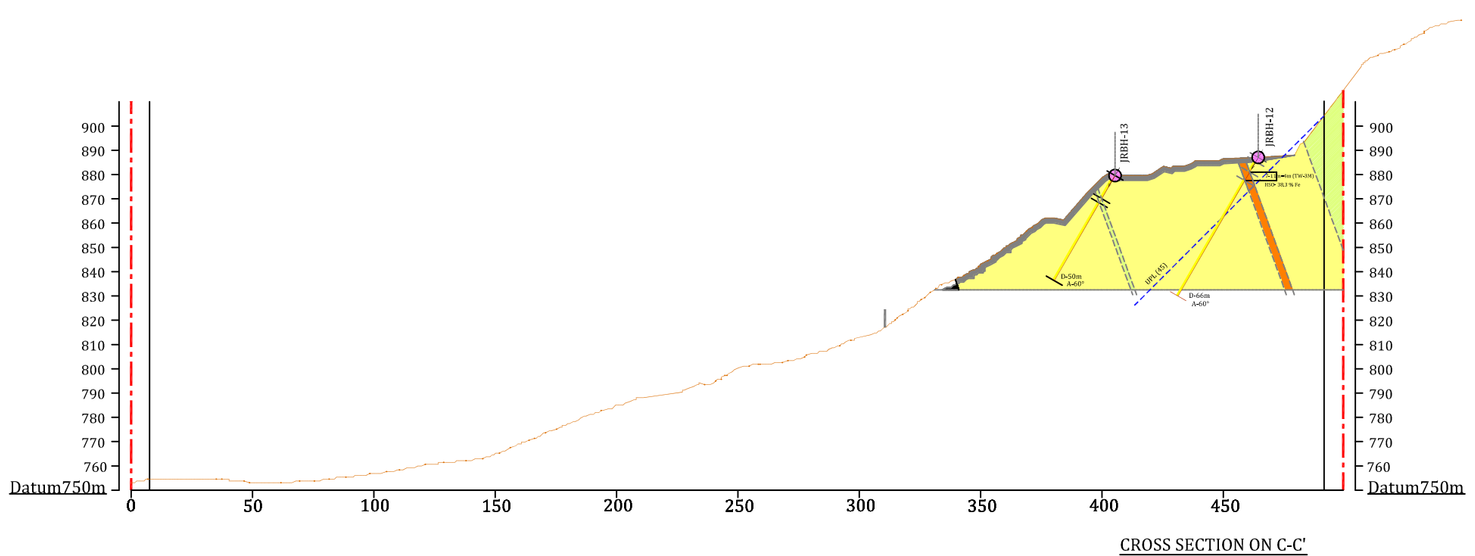
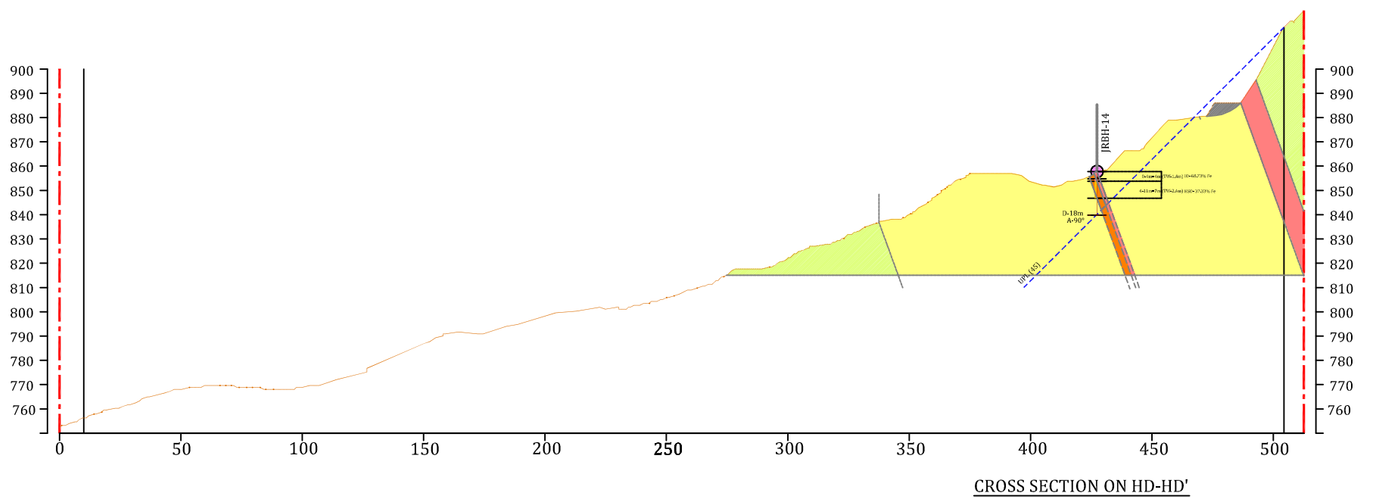


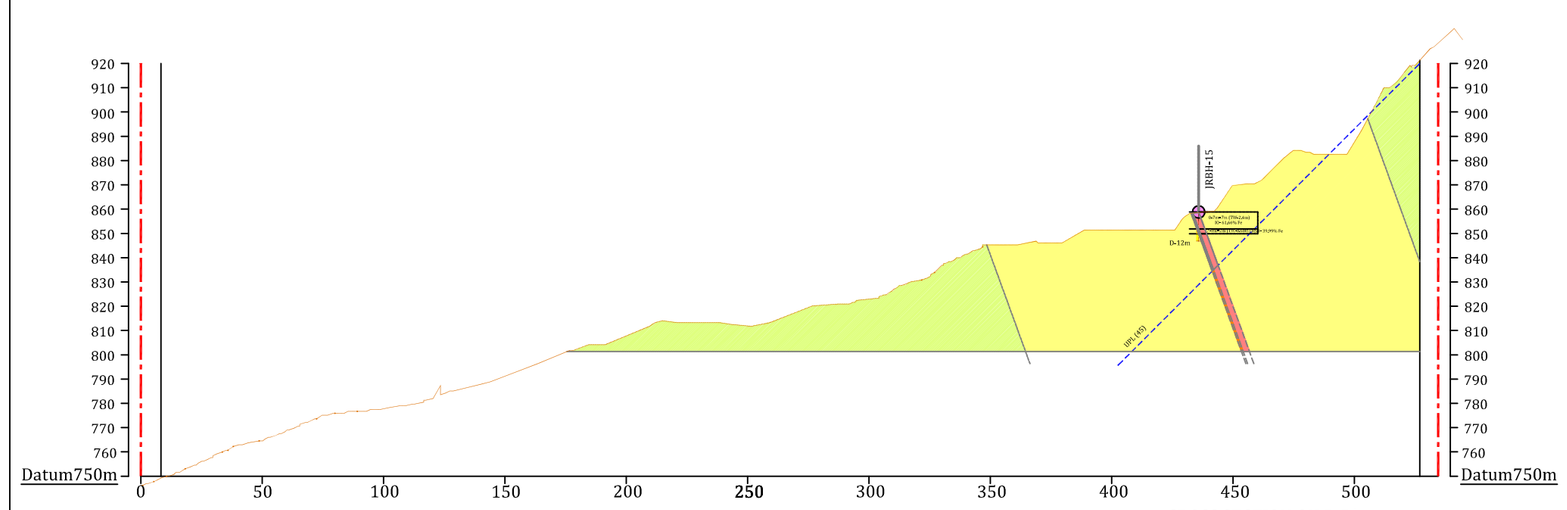

CROSS SECTION ON HC-HC'



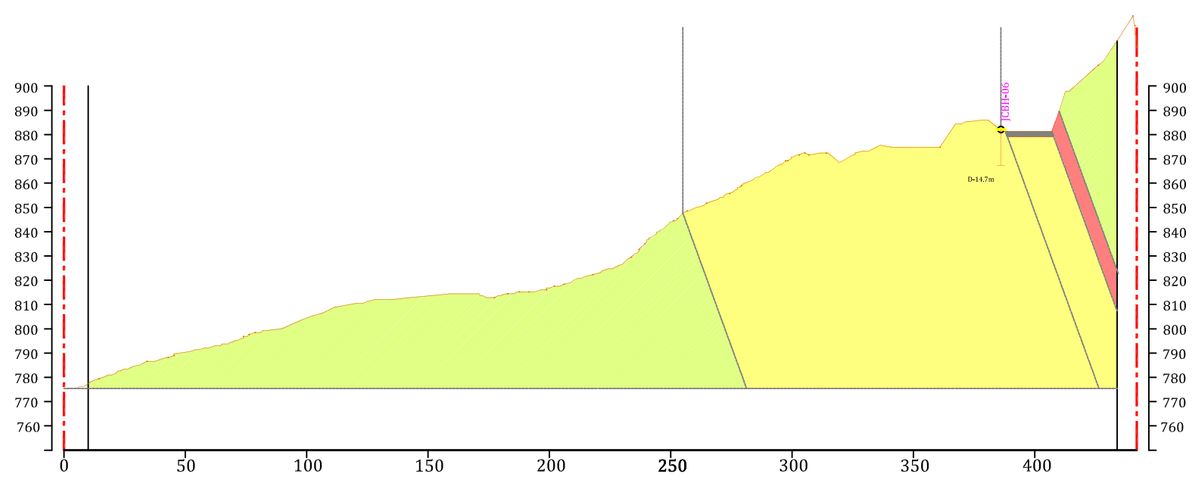

CROSS SECTION ON C-C'



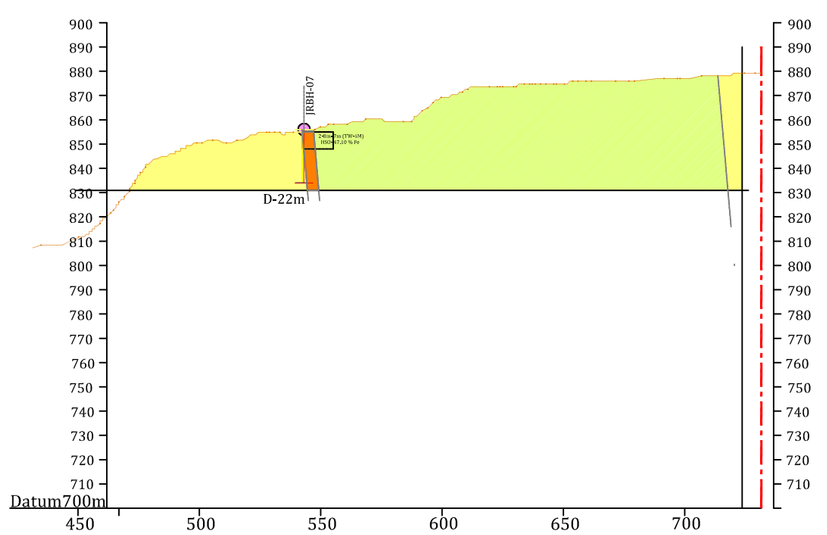

CROSS SECTION ON HD-HD'




CROSS SECTION ON D-D'




CROSS SECTION ON HE-HE'




CROSS SECTION ON N-N'

SCALE 1:200

INDEX

- UPDATD PROFILE
- JIOM DRILLED HOLE
- BACKFILL MATERIAL
- ORE BANDS
- SHALE
- BHQ/BHJ
- HEMATITIC SILICIOUS ORE
- UPDATED UPL (45°) SLOPE