

By e-mail

**GOVERNMENT OF INDIA
MINISTRY OF MINES
INDIAN BUREAU OF MINES
OFFICE OF THE REGIONAL CONTROLLER OF MINES, BANGALORE**

No. MCDR-MPCP0CaFI/3/2024-BNG-IBM_RO_BNG

Dt : 18/02/2025

Shri/M/s. NMDC LIMITED ,
10-3-311/A, KHANIJ BHAVAN, CASTLE HILLS MASAB TANK HYDERABAD

Sub Approval of Modification of Mining Plan along with Progressive Mine Closure Plan in respect of your Kumaraswamy Iron ore Mine (ML : No. 1111) of M/s NMDC Ltd over an area of 639.80 Ha located in Deogiri village, Sandur Taluk, Ballari District, Karnataka State, submitted for approval under Rule 17(3) of MCR, 2016. (Mine Code: 30KAR03092) PSU / Forest & Non-forest / Non-Captive / 'A' Category Mechanized.

Ref:-

1. Your Application No. 270 dated 29.10.2024 submitting therewith soft copy of draft of Modification of Mining Plan along with Progressive Mine Closure Plan through online portal MTS-MPAS <https://miningplan.ibm.gov.in>.
2. Submission of final copies of Modification of Mining Plan along with Progressive Mine Closure Plan in Mining Tenement System / Mining Plan Approval System (MPAS) on 11.02.2025.

Sirs,

In exercise of the powers conferred by clause (b) of sub-section (2) of section 5 of the Mines and Minerals (Development & Regulation) Act, 1957 read with Govt. of India order No. S.O.445 (E) dated 28.04.1987 and S.O.1857 (E) dated 18.05.2016, I hereby **Approve** the "Modification of Mining Plan along with Progressive Mine Closure Plan" in respect of your **Kumaraswamy Iron ore Mine (ML No. 1111)** over an area of **639.80** Ha in Deogiri village, Sandur Taluk, Ballari District, Karnataka State, submitted for approval under Rule 17(3) of MCR, 2016 for the period from 2024-25 to 2026-27. This approval is subject to the following conditions:

A.General Conditions:

1. The Modification of Mining Plan along with Progressive Mine Closure Plan is approved without prejudice to any other laws applicable to the mine from time to time whether made by the Central Government, State Government or any other Authority.
2. The Modification of Mining Plan along with Progressive Mine Closure Plan is approved without prejudice to any order or direction from any court of competent jurisdiction.
3. It is also clarified that the approval of your aforesaid Modification of Mining Plan along with Progressive Mine Closure Plan does not in any way imply the approval of the Government in terms of any other provisions of the Mines and Minerals (Development and Regulation) Act 1957 as amended the rules framed there under.
4. It is further clarified that the approval of Modification of Mining Plan along with Progressive Mine Closure Plan is subject to provision of Forest (Conservation) Act, 1980, Forest Conservation Rules, 2003 and other relevant statutes, order and guidelines as may be applicable to the lease area from time to time.
5. The Provisions of Mines Act, 1952 and Rules & Regulations made there under shall be complied with.
6. The execution of Modification of Mining Plan along with Progressive Mine Closure Plan shall be subjected to vacation of prohibitory orders / notices, if any.
7. Your attention is invited to the Supreme Court interim order in W.P. (C) No.202 dated 12.12.1996 for compliance. The Approval of above said Modification of Mining Plan along with Progressive Mine Closure Plan is therefore, issued without prejudice to and is subject to the said directions of the Supreme Court as applicable.
8. If anything is found to be concealed as required by the Mines Act in the contents of this document and the proposal for rectification has not been made, the approval shall be deemed to have been withdrawn with immediate effect.
9. This department does not undertake any responsibility regarding correctness of the boundaries of the leasehold shown on the ground with reference to lease map & other plans furnished by the applicant/ lessee.
10. This approval for mining operation and mining related activities is restricted to the mining lease area only from this date. The mining lease area is as shown on the statutory plans by the Lessee/QP/Applicant and Indian Bureau of Mines has not undertaken verification of the mining lease boundary on the ground.

11. This Approval is given for received proposals as applicable from this date for the mining activities to be carried out within the mining lease area. The earlier instances of irregular mining/illegal mining, if any, shall not be regularized with this approval.
12. The validity period of the Financial Assurance shall be renewed before the expiry of the same (31.03.2027) and should be submitted to this office.
13. At any stage, if it is observed that the information furnished, data incorporated in the document are incorrect or misrepresent facts, the approval of the document shall be revoked with immediate effect.
14. The Approval of Modification of Mining Plan along with Progressive Mine Closure Plan is subject to condition that you shall maintain boundary pillars as indicated in Rule 12 (v) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016.
15. The Environmental Monitoring Cell of the company shall be established. The Environmental Monitoring Cell so established shall continue monitoring ambient air quality, dust fall rate, water quality, soil sample analysis and noise level measurements on various stations established for the purpose both in the core zone and buffer zone as per MOEF guidelines and keeping in view IBM's circular's No.3/92, season wise every year or by engaging the services of an Environment Laboratory approved by MOEF/CPCB. The data so generated shall be maintained in a bound paged register kept for the purpose and the same shall be made available to the inspecting officer on demand.
16. In case the mining lease falls within a radius of 10 kms of National Park/ sanctuary, recommendations of NBWL have to be obtained as per the Order of Hon'ble Supreme Court in I A No. 460/2004.
17. A yearly report shall be submitted to this office before 1st July of every year setting forth the extent of protective and rehabilitative works carried out as envisaged in the approved mine closure plan.
18. As per the Hon'ble Supreme Court of India in Writ Petition No.114/2014 dated 08.01.2020, the mining Lease holders shall, after ceasing mining operations, undertake re-grassing the mining area and any other area which may have been disturbed due to their mining activities and restore the land to a condition which is fit for growth of fodder, flora, fauna etc.
19. It shall be mandatory for the project proponent, abstracting ground water, to obtain "No Objection Certificate" from Central Ground Water Authority or, the concerned State/Union Territory Ground Water Authority, as the case may be.
20. The next Review of Mining Plan for the subsequent period of five years shall become due 180 days before the last day of fifth year plan period i.e. 31.03.2027.

B. Special Conditions:

1. The Approval of Modification of Mining Plan along with Progressive Mine Closure Plan is approved for the period from 2024-25 to 2026-27 for total Mineral Reserves of 237.803 million Tonnes of Iron Ore comprising of 203.831 million Tonnes of Hematitic Iron Ore (HIO) and 33.972 million tonnes of Hematitic Silicious Iron Ore (HSIO) as on 01.10.2024 with Annual Production Capacity proposals valid for the following period with respective production capacity.

Year	Production of Iron Ore ROM (tonne) #
2024-25*	4440457.00
2025-26	8628000.00
2026-27	8628000.00

above approved production capacity is subject to periodical changes in permissible annual production capping by DMG, Karnataka

* Production quantity mentioned for the year 2024-25 excludes the production quantity of 4187542 tonnes already achieved up to Sept-2024. The total production quantity of Iron Ore proposed for this year is 8627999 tonnes.

Yours Faithfully

(Dr. Suresh Prasad)

Regional Controller of Mines

Copy for information to :-

1. The Controller of Mines (South Zone), Indian Bureau of Mines, Bangalore.
2. The Director of Mines Safety, Directorate General of Mines Safety, Bellary Sub- Region, 31, Infantry Road, Cantonment, Bellary -584104.
3. The Director, Department of Mines & Geology, Govt. of Karnataka, Bangalore.
4. Shri Randhir Kumar, Qualified Person, Kumaraswamy Iron Ore Mine, NMDC Limited, Donimalai Township, Sandur, Bellary, Karnataka.

Approved

Chapter 1 : General Information

1.1 : Lease Details

IBM Registration Number :	IBM/270/2011
Lease Code :	60501002
Mine Code :	30KAR03092
Name of Lessee :	NMDC LIMITED
Address of Lessee :	10-3-311/A, KHANIJ BHAVAN, CASTLE HILLS MASAB TANK HYDERABAD
Type of Lessee :	PSU
Name of Mining Lease :	KUMARASWAMY
State :	KARNATAKA
District :	BALLARI
Tehsil/ Taluk/ Mandal :	Sandur
Village :	Deogiri
Lease Area (Ha) :	639.80
Forest Area (Ha) :	487.0100
Name of Minerals :	IRON ORE
Name of associated minerals :	

Type :	Existing Lease
Period of the proposal (FY) from :	2024 - 25
Period of the proposal (FY) to :	2026 - 27
Type of working :	Opencast
Nature of Use :	Non Captive
Category of Mine :	Category A

1.1.1 : Initial/subsequent Lease grant details

Grant	From	To	Lease deed execution date	Lease registration date
Initial Grant	18/10/1972	17/10/2002	18/10/1972	11/12/1972
1st Extension	18/10/2002	17/10/2022	14/07/2020	18/06/2020
2nd Extension	18/10/2022	17/10/2042	15/10/2022	17/10/2022

1.1.2 : Mining Plan Submission Criteria Details

Type of Document :	Modification Of Mining Plan Under Rule 17(3) Of MCR, 2016
Reason/s For Modification :	The Reasons For Modification Of MP Are As Below: 1.Addition Of HSIO In The Reserves As Well As Resources 2.Updation Of Year Wise Production Program As Per CEC MPAP Which Is 8.628 MTPA (Letter Attached In Annexure-5) For The Remaining Plan Period From 2024-2025 To 2026-2027(from 01.10.2024 To 31.03.2027) 3.Rectification Of Working Proposals Which Were In Deviation With The Earlier Approved Mining Plan
Period for which modification is proposed :	2024-2025 to 2026-2027

1.2 : Land Ownership Details

View Land Ownership Details Excel	Land Ownership_Details.xlsx
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1.3 : Existing Lease

Date of Execution :	18/10/1972
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1.3.1 : Approval of earlier Mining Plan & Its Subsequent Review in Chronological Order

S.N.	Letter Number	Date	Period		Type Of Approved Document	Remark
			From	To		
1	No records found	01/04/1997	01/04/1997	31/03/2002	Scheme Of Mining	1997-2002 (Approved for 5 Years)
2	No records found	01/04/2002	01/04/2002	31/03/2007	Mining Plan	2002-2007 (Approved for 5 Years)
3	No. MP/BLR/Fe-27-SZ, dated: 18.10.2002	18/10/2002	01/04/2007	31/03/2012	Scheme Of Mining	2007-2012 (Approved for 5 Years)
4	No. KNT/BLR/MS/Fe1 77-SZ/828 dated: 16.08.2012	16/08/2012	01/04/2012	31/03/2017	Scheme Of Mining	2012-13 to 2016-17 (Approved for 5 Years)
5	No. KNT/BLR/MS/Fe2 20-SZ/817 dated: 18.06.2014	18/06/2014	01/04/2013	31/03/2017	Modification Of Mining Plan	Modified Scheme of Mining 2013-14 to 2016-17 (Approved for 4 Years)
6	No. 279/290/91/BNG/1097, dated 29/08/2016	29/08/2016	01/08/2016	31/03/2017	Modification Of Mining Plan	Second Modification in Approved Scheme of Mining August,2016 to March,2017 (Approved for 1 Year i.e. 2016-17)

7	No. 279/290/91/BNG/1761, dated 07/11/2016	07/11/2016	01/04/2017	31/03/2022	Review Of Mining Plan	01.04.2017 to 31.03.2022 (Approved for 5 Years)
8	No. 279/290/91/BNG/1442, dated: 07.07.2017	07/07/2017	01/05/2017	31/03/2022	Modification Of Mining Plan	Modification and Review of Mining Plan 01.05.2017 to 2021-22 (Approved for 5 Years)
9	No. 279/290/91/BNG/1336, dated: 13/07/2018	13/07/2018	01/04/2018	31/03/2022	Modification Of Mining Plan	Second Modification to the Approved Review and Updation of Mining Plan 2018-19 to 2021-22 (Approved for 4 Years)
10	No. 279/290/91/BNG/927, dated: 16/12/2019	16/12/2019	01/04/2020	31/03/2022	Modification Of Mining Plan	Third Modification to the Second Approved Review and Updation of Mining Plan 2020-21 to 2021-22 (Approved for 2 Years)
11	No.: 279/290/91/BNG-1120, dated: 29/10/2021	29/10/2021	01/04/2022	31/03/2027	Review Of Mining Plan	Fourth Modification to the Third Approved Review and Updation of Mining Plan 2022-23 to 2026-27 (Approved for 5 Years)

1.3.2 : Partial Surrenderd Area During Stages of Operations in Chronological Order

Not Applicable

1.3.3 : Transfer of Lease Area Subsequent to Grant

Not Applicable

1.3.4 : Statutory Compliances**1.3.4.1 : Environment Clearance**

Applicable :	Yes
Letter No :	J-11015/13/2021-IA.II (M)
Date :	10/07/2023
Validity :	17/10/2042
ROM Mineral :	10000000.0000 (Tonnes)

1.3.4.2 : SPCB Approvals

Letter No :	Consent order no:AW-343229,PCB ID: 19767, Inward No.218357 (CFO-Expand)
Approval of :	Consent To Operate
Date :	06/05/2024
Validity :	30/06/2026
ROM Mineral :	8628000.0000 (Tonnes)

1.3.4.3 : Forest Clearance

Applicable :	Yes
Letter No :	vide letter no. FEE 72 FFM 2022, Bengaluru dated 14/10/2022

Date :	14/10/2022
Validity :	17/10/2042
Area (Ha) :	324.7000

1.3.4.4 : Land Acquisition Details

Total Area Acquired in hectare:	0.0000
Total Amount Paid (INR) :	0.0000

1.3.5 : Mine Location Details

Toposheet Number :	D43E12
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1.3.5.1 : Location of Boundary Pillars

View Location of Boundary Pillars Excel	location_boundary_pillar.xlsx
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1.3.6 : Owner/Nominated Owner Details

Name	PAN of owner / Nominated Owner	Address of owner/ Nominated Owner	Mobile / Contact Number	Email	Please attach Minutes of Board Resolution in case of Nominated Owner
JOYDEEP DASGUPTA	AGPPD3909A	Flat No 3154 Prestige Ivy League Sy No 14P Kothaguda Hitech City Road Beside E Park TCS Kindapur Hyderabad	040-23538706	dirprod@nmdc.co.in	3_Owner_declaration.pdf

1.3.7 : Qualified Person Details as per M(OAHCEM)CR, 2016

S.N.	Prefix	Name	PAN of QP	Address	Mobile no.	Qualification	Exp in years as prescribed under the rule	Email
1	Mr	Randhir Kumar	AKIPK7300F	KUMARASWAMY IRON ORE MINE, NMDC LIMITED, DONIMALAI TOWNSHIP, SANDUR, BELLARY, KARNATAKA	9109197660	BTECH IN MINING ENGINEERING	28	RANDHIRKUMAR@nmdc.co.in

Chapter 2A : Geology & Exploration

2A.1 : Geology

2A.1.1 : Topography

Terrain :	Undulating
Highest Level (m) from MSL :	1080.0000
Lowest Level (m) from MSL :	964.0000
Average Level (m) from MSL :	1036.0000
Drainage Pattern :	Dendritic
Order of Stream :	Order 1
Min Dist of Stream from Lease Area(m) :	0.0000

2A.1.2 : Details of Physiographic features and Infrastructures available in and around the lease/ block area

Description	Location if existing Within the lease/block area	Distance from boundary periphery in kms, if existing outside the lease/block area. (within 5.00Kms)	Remark if any
River/Nallah/Reservoir	NIL	NIL	Nil
Public roads (Tar road, cart road)	From N-1659237 E-670426 to N-1659805 E-673929	NIL	Zilla Panchayat Road passing through sothern side of the lease
Railway track	NIL	03 km	Swamihalli Railway Siding located Sothern side of Lease
Human settlements	NIL	01 km	Kammathuru & Deogiri Villages
Archaeological monuments/ places of worships/public utilities etc	NIL	01km	Kumaraswamy Temple

Wild life sanctuaries/ national parks	NIL	NIL	Nil
Coastal Regulation Zone (CRZ)	Not Available	NIL	Nil
Powertransmision lines/telephone lines	From N-1660133 E-672337 to N-1661040 E-672546	NIL	State Governments Power/ Telephone line
Firing range	NIL	NIL	Nil
Ordinance factory	NIL	NIL	Nil
grazing land/ burial ground or cremation ground	NIL	NIL	Nil
Any other specify	NIL	5	JSW (ML no. 005, SMIORE (ML no-2580,2851), Marwa (ML-2482), KSMCL (ML-2629, 1754), KFIL (ML-0016), Gavisiddheswra (ML-2552) etc

Particulars	Distance from lease boundary in kms
Near by village	1km - Kammathuru & Deogiri villages
Nearest Railway station	3km - Swamihalli RS
Nearest Port	330km- Belekeri Port
Distance of SH/NH from lease area	10km - Kudligi Sandur State highway

2A.1.3 : Regional Geology

Regional Geology The Iron Ore deposits of Kumaraswamy forms a part of Bellary-Hospet group of Iron Ore deposits and occupy the southern tip of the Sandur synclinorium. The Sandur Schist belt is one of the Dharwar type precambrian supracrustal belts in the Karnataka Craton of South India. This is the smallest of the three basins and covers an area of just 960 sq. km. It is structurally highly disturbed and squeezed out of shape by the intrusion of younger granites. Shale facies as in the other basins is confine to the western margin. Well-developed mafic magmatism and strong development of manganiferous greywacke, Phyllite and numerous bands of banded hematite quartzite (BHQ) characterize the basin. The basin is known for its rich accumulation of both iron and manganese ores. Basement cover relations are obscured because of intense deformation and intrusion by younger granites. The Sandur Schist Belt has a lens-shaped geometry of about 60-km long, with a maximum width of 28 km in the central part. Four formations have been distinguished in this basin: Yeshwantnagar, Deogiri, Donimalai and Nandihalli Formations. The Yeshwantnagar Formation is largely composed of Volcanic flows; the Deogiri formation is composed of manganiferous greywacke, argillite. The Donimalai Formation consists of extensive development of banded hematite, chert and
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jasper. The topmost Nandihalli Formation is made up of metabasalts with intercalation of greywacke and argillites. Lateritization has played an important role in the concentration of manganese and iron in the profile, giving rise to rich accumulation of Manganese and Iron ore for which this schist belt is well known. Manganese mineralization area restricted to Devagiri formation whereas Iron Ore enrichment are within the Donimalai formation (mineralization has stratigraphic control).

2A.1.4 : Local Geology & Structure

2A.1.4.1 : Local Geological Set-up

Kumaraswamy Iron Ore Deposit is located in the Southern tip of Sandur Schist Belt of Precambrian age. The trend is E-W and dipping between 20 to 30 degrees N. Hematite is the main ore constituent, whereas the BHQ and Shale are the main waste constituents. The structure of the area is described as folded synclinorium. Iron ore is believed to have originated from the BHQ by leaching of silica and enrichment of iron oxide by meteoric agencies like other similar deposits in the country.

2A.1.4.2 : Structure

The iron ore deposit of Kumaraswamy forms a part of Bellary-Hospet Group of Iron Ore deposits under geological name of Sandur Schist Belt . The general trend of Sandur schist belt is NNW-SSE. Kumaraswamy range, trending E-W, forms the southern tip of this Sandur Schist Belt. The ore bodies B and C shows a general strike of WNW-ESE, which is almost parallel to the trend of Kumaraswamy range, i.e., East-West. The dip of foliations is mainly towards north with angles varying from 15 to 35 degrees. All along the strike length of the ore body the footwall is characterized by ferruginous shale like material which has a thickness ranging from 0 to 5m. The thickness is sometimes more, especially near the contact of the ore on the footwall. On the southern flank of the range, manganese minerals occur as disseminations, veinlets pockets, etc, within the shale/tuff near its boundary with the chlorite schist. There is no prominent manganese bearing horizon on the northern side such as those on the southern flank of the range. However, sporadic occurrences of manganese minerals as disseminations and veins are found on the eastern portion of the range. Kumaraswamy range occupies the southern closure of the Sandur Synclinorium. It still remains to be decided whether Dharwarian patch at Sandur forms a Synclinorium or Anticlinorium, the consensus being in favour of a Synclinorium. It is proved from the available data that the Kumaraswamy range has a synformal geometry modified by super position of fold system.

2A.1.4.3 : Lithology, Petrographic & Mineralogical Description for Major, Associated & Indicator Minerals

The major rock types of this area are banded iron formation (BIF), ferruginous shales, phyllites, tuffs and quartzites. However, detailed geological mapping, drilling and ore dressing studies have revealed various ore types in Deposits. Physical and Chemical variations in different ore types were observed with regard to degree of surface oxidation, hardness, compactness, granularity, sandy and flaky nature etc. Based on above characteristics iron ore has been broadly grouped in to five dominant ore types. They are as follows: Type- 1: Heamtitic iron ore(45% to 66%), Type- 2: heamtitic siliceous iron ore(35% to 45%Fe). Heamtitic iron ore is found in stratigraphic bedded form. Both ore types are analysed to be greater than 35% Fe. It is found in massive ,laminated and powdery form at different locations. Laterite, Shale and Banded Iron formations (BIF) analyzed to be less than 35% Fe are considered waste. The effect of lateralization like obliteration of laminations, development of pisolitic texture, and hydration of hematite seen in some places.

2A.1.4.4 : Mode of Occurance & Controls of Mineralization

The currently accepted opinion about the origin of the ore bodies is as follows: a. The silica had leached out with occasional replacement of silica by newly introduced iron. b. The enrichment may be due to downward percolating meteoric water or deep-seated heated solutions. c. Superficial lateralization has been caused at the top in recent times. d. Lateritisation of underlying shales locally, to some extent has led to the formation of the ferruginous lateritic or lateritic ore towards the top.

2A.1.4.5 : Extent of Weathering/ Alteration

Laterite and lateritic iron ores occur as a capping formation which are due to weathering effect observed at mineralized zone, BIFs and ferruginous shales. Goethite as alteration product occurs in the joint and fracture planes of the BIFs at few places in the surficial exposures.

2A.1.4.6 : Nature/Form of Mineral

Friable

Specify If any other

Lumps, fines, boulders (Lumps fines ratio is 35:65)

2A.1.4.7 : Extent of Mineralization

There are two bands, namely HIO and HSIO over the two blocks of the lease (B & C), whose details are given below: HIO-Heamtitic iron ore(45% to 66%), HSIO- Heamtitic siliceous iron ore(35% to 45%Fe). HIO band is running over a strike length of 4700m with width of about 500m. Avg depth is 80m. Whereas HSIO band runs over 1650m with a width of 200m and depth is about 50m. The maximum grade of iron ore is analyzed is 66% Fe and average grade for HIO is 55.15% Fe. However, HSIO band averages about 39.50% Fe.

2A.1.4.8 : Deposit Type (as per MEMC Rule)

Stratiform, Stratabound and Tabular Deposits of Regular Habit

Strike / Trend of the Ore Body

E

10

S

to

W

10

N

Amount of Dip of the Ore Body (degree)

Amount of Dip of the Ore Body (degree)

20

30

(from)

(to)

Dip Direction of the Ore Body			Plunge of Mineral Body (degree) (if any)	Direction of Plunge		
N	25	NE	0	E	Nil	W

2A.2: Exploration

2A.2.1: Summary of The Previous Exploration (for fresh grant) / During Last Plan Period (for existing leases)

Name of The Agency
NMDC

2A.2.1.1: Geological Mapping

SI.No.	Year		Scale	Area Covered (Ha)
	From	To		
1	01/04/2022	31/03/2023	1:2000	639.8000
2	01/04/2023	31/03/2024	1:2000	639.8000
3	01/04/2024	31/10/2024	1:2000	639.8000

2A.2.1.2: Airborne Geophysical Survey

SI.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					Form	To	Form	To
1	NIL	0	0.00	0.0000	Nil	Nil	Nil	Nil

2A.2.1.3: Ground Geophysical Survey

SI.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					Form	To	Form	To

2A.2.1.7 Exploratory Drilling(Core/non Core)

SI.No.	Year		Exploration agency	Core holes		Non-core (RC/DTH)		Grand total		Attach log sheet of each borehole in csv/excel format
	From	To		Number of boreholes drilled	Total mtrs	Number of boreholes drilled	Total mtrs	Number of boreholes drilled	Total mtrs	
1	01/04/2022	31/03/2023	NMDC	16	1405.50	0	0.00	16	1405.50	BHDdetails-22-23.xlsx
2	01/04/2023	31/03/2024	NMDC	8	937.00	0	0.00	8	937.00	BHDdetails-23-24.xlsx

2A.2.1.8: Exploratory Mining

SI.No.	Pit/Adit ID	Length in Mtr	Width in Mtr	Depth in mtrs	Volume (m ³)
1	NIL	Nil	Nil	Nil	Nil

2A.2.1.9: Sampling

SI.No.	Type of sample	No of samples collected	Number of samples analyzed	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Remark if any
				From	To	From	To	
1	Drill Core	1567	1567	15:00:00.00	15:01:20.00	76:33:55.00	76:37:10.00	Nil

2A.2.1.10: Chemical Analysis

SI.No.	Sample ID	Minerals	Radical with garde in %	Name of Agency	Type of agency	Attachment
1	2022-23 as per data sheet	Iron Ore	Fe,SiO ₂ ,Al ₂ O ₃ ,P	NMDC LTD	NABL accredited	BHDdetails-22-23.xlsx
2	2023-24 as per data sheet	Iron Ore	Fe,SiO ₂ ,Al ₂ O ₃ ,P	NMDC LTD	NABL accredited	BHDdetails-23-24.xlsx

* Chemical analysis of core /non vore samples may be uploaded in CSV file which shall normally include Five files namely collar file, survey file and Geology log file, Assay file & RQD File.

2A.2.1.11: Petrology & Mineralogical Studies

SI.No.	Type of Sample	Number of Sample Drawn	Number of Sample Analyzed	Petrographic Study Report
1	Nil	Nil	Nil	Nil

2A.2.1.12: Beneficiation Studies

SI.No.	Type of Beneficiation	Number of Samples	Attach
1	Nil	Nil	Nil

2A.2.1.13: Bulk Density Study as per M(EMC) Rules, 2015 and SOP of CGPB

Method adopted for calculating bulk density of ore and waste				
Method adopted for calculating bulk density is as per IS 5842:1986/2019, that is by container fill method. The known mass is divided by volume to arrive Bulk density/Tonnage Factor of different ore types				
SI.No.	Nature of Ore/OB	Mineral	Number of samples	Bulk Density Established (t/m ³)
1	Hematitic Iron Ore	HIO	3	3.20
2	Hematitic Siliceous Iron Ore	HSIO	3	2.90
3	Waste	WASTE	3	2.60

2A.2.1.14: Area Covered under Exploration

Level of exploration	Area in Ha.		Total Area in Ha.
	Forest	Non Forest	
G-1	154.810000	71.590000	226.400000
G-2	5.240000	0.000000	5.240000
G-3	0.000000	0.000000	0.000000
G-4	326.090000	2.020000	328.110000

Area proved as Non-mineralized	0.000000	53.500000	53.500000
Area to be explored	0.870000	25.680000	26.550000
Total	487.010000	152.790000	639.800000

2A.2.2: Summary of The Previous Exploration (Before Last Plan Period)

Name of The Agency
NMDC Ltd

2A.2.2.1: Geological Mapping

Sl.No.	Year		Scale	Area Covered (Ha)
	From	To		
1	01/04/1972	31/03/2016	1:2000	639.80
2	01/04/2016	31/03/2017	1:2000	639.80
3	01/04/2017	31/03/2018	1:2000	639.80
4	01/04/2018	31/03/2019	1:2000	639.80
5	01/04/2019	31/03/2020	1:2000	639.80
6	01/04/2020	31/03/2021	1:2000	639.80
7	01/04/2021	31/03/2022	1:2000	639.80

2A.2.2.2: Airborne Geophysical Survey

Sl.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					From	To	From	To
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

2A.2.2.3: Ground Geophysical Survey

SI.No.	Type of Survey	Spacing (m)	Total line (km)	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					From	To	From	To
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

2A.2.2.4: Geochemical Survey

SI.No.	Type of Sample	No of Samples
1	Nil	Nil

2A.2.2.5: Pitting

SI.No.	Pit ID	Length of Pit (m)	Width of Pit (m)	Depth of Pit (m)	Litho units exposed	Litho Unit From (m)	Litho Unit To (m)	Average Grade(%)	Running Metres (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
										Form	To	Form	To
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

2A.2.2.6: Trenching

Number of Trenches
Nil

Spacing

Min (m)	Max (m)	Avg (m)
Nil	Nil	Nil

Area Covered Under Trenching

Co-ordinates

Latitude

North	Nil
North	Nil
North	Nil
North	Nil

Longitude

East	Nil
East	Nil
East	Nil
East	Nil

SI.No.	Trench ID	Length of Trench (m)	Width of Trench (m)	Depth of Trench (m)	Litho Units Exposed	Average Grade	Running mtr	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
								From	To	From	To
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

2A.2.2.7: Exploratory Drilling

2A.2.2.7.1:Core/Non-core Drilling

SI.No.	Year		Exploration agency	Core holes		Non-core (RC/DTH)		Grand total		Attach log sheet of each borehole in csv/excel format
	From	To		Number of boreholes drilled	Total mtrs	Number of boreholes drilled	Total mtrs	Total boreholes	Total mtrs	
1	01/04/1968	31/03/2016	NMDC	227	13885.40	0	0.00	227	13885.40	BOREHOLES DETAILS FORMAT (1968-2016).xlsx
2	01/04/2016	31/03/2017	NMDC	20	1731.30	0	0.00	20	1731.30	BOREHOLES

										DETAILS_FO RMA_T (2016- 2017).xlsx
3	01/04/2017	31/03/2018	NMDC	32	2731.00	Nil	Nil	32	2731.00	BOREHOLES DETAILS_FO RMA_T (2017- 2018).xlsx
4	01/04/2018	31/03/2019	NMDC	50	3467.00	Nil	Nil	50	3467.00	BOREHOLES DETAILS_FO RMA_T (2018- 2019).xlsx
5	01/04/2019	31/03/2020	NMDC	36	3228.00	Nil	Nil	36	3228.00	BOREHOLES DETAILS_FO RMA_T (2019- 2020).xlsx
6	01/04/2020	31/03/2021	NMDC	33	2224.00	Nil	Nil	33	2224.00	BOREHOLES DETAILS_FO RMA_T (2020- 2021).xlsx
7	01/04/2021	31/03/2022	NMDC	32	2038.70	Nil	Nil	32	2038.70	BOREHOLES DETAILS_FO RMA_T (2021- 2022).xlsx

2A.2.2.8: Exploratory Mining

Sl.No.	Pit / Adit ID	Volume (m ³)
1	Nil	Nil

2A.2.2.9: Sampling

Sl.No.	Type of sample	Number of Samples	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
				From	To	From	To
1	Drill Core	16224	195.27	15:00:45.78	15:00:30.55	76:34:25.64	76:37:00.40

2A.2.2.10: Chemical Analysis

Sl.No.	Sample ID	Minerals	Radical Analysis	Attachment
1	IDs as per Excel sheet-1968-2016	Iron Ore and waste	Fe, SiO ₂ , Al ₂ O ₃	BOREHOLES DETAILS FORMAT (1968-2016).xlsx
2	IDs as per Excel sheet-2016-2017	Iron Ore and waste	Fe, SiO ₂ , Al ₂ O ₃	BOREHOLES DETAILS FORMAT (2016-2017).xlsx
3	IDs as per Excel sheet-2017-2018	Iron Ore and waste	Fe, SiO ₂ , Al ₂ O ₃	BOREHOLES DETAILS FORMAT (2017-2018).xlsx
4	IDs as per Excel sheet-2018-2019	Iron Ore and waste	Fe, SiO ₂ , Al ₂ O ₃	BOREHOLES DETAILS FORMAT (2018-2019).xlsx
5	IDs as per Excel sheet-2019-2020	Iron Ore and waste	Fe, SiO ₂ , Al ₂ O ₃	BOREHOLES DETAILS FORMAT (2019-2020).xlsx
6	IDs as per Excel sheet-2020-2021	Iron Ore and waste	Fe, SiO ₂ , Al ₂ O ₃	BOREHOLES DETAILS FORMAT (2020-2021).xlsx
7	IDs as per Excel sheet-2021-2022	Iron Ore and waste	Fe, SiO ₂ , Al ₂ O ₃	BOREHOLES DETAILS FORMAT (2021-2022).xlsx

2A.2.2.11: Petrology & Mineralogical Studies

Sl.No.	Type of Sample	Number of Sample Drawn	Number of Sample Analyzed	Petrographic Study Report
1	Nil	Nil	Nil	Nil

2A.2.2.12: Beneficiation Test

Sl.No.	Type of Beneficiation	Number of Samples	Attachment
1	Nil	Nil	Nil

2A.2.2.13: Bulk Density

Sl.No.	Rock Type	Number of Samples	Minerals	Bulk Density Established (t/m ³)
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2	HSIO Band	E-W	N	1650.00	200.00	50.00	Fe	35.00	45.00	39.50
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2A.2.4: Reserve / Resource Estimation Method

2A.2.4.1: Methodology

Resource / Reserve Estimation Method
Sectional Area Method
Methodology
Resource/reserves are updated using latest exploration data as per UNFC guidelines by cross sectional method. Geological cross sections are prepared at 62.5m interval. Sectional areas are calculated, and cross-sectional areas are multiplied by sectional influence and the volume of the individual lithology was arrived. This area of individual litho units in each cross section is calculated separately. The ore reserves/resources are categorized as per UNFC into the following: Proved Mineral Reserves (111) are estimated based on the data of G-1 level of exploration (up to 100X62.5m grid interval) without projecting depth limits beyond the borehole bottom and lateral extensions of extreme boreholes. Probable Mineral Reserves (122) are estimated based on the data of G-2 level of exploration. Mineral blocked in the areas of safety zone of 7.5m along the boundary as no common boundary working permission is present, and ore blocked due to HT Powerline, Village Road, below UPL are (Feasibility Mineral Resources-211) estimated separately which is not minable. Inferred Mineral Resources (333) are estimated below proved level based on geological extension of the individual lithology where borehole data is not present. No mineral reserves and resources are estimated for Non-FC area of 162.31ha as there is no exploration data.

2A.2.4.2: Resource Calculation

SI.No.	Cross Section/Block	Section Area/ Block Area(sq mt)	Influence(m)	Depth in mtr	Volume (m ³)	Bulk Density (t/m ³)	Resource Quantity (t)	Level of Exploration	Type of Land	Name of the radical	Grade (%)	Method used for resource estimation
1	B1	176	62.50	0.00	11000.00	3.20	35200.00000	331	REVENUE	Fe HIO	55.5	CROSS SECTIONAL METHOD
2	B2	2168	62.50	0.00	135500.00	3.20	433600.00000	331	REVENUE	Fe HIO	57.05333333	CROSS SECTIONAL METHOD
3	B3	4268	62.50	0.00	266750.00	3.20	853600.00000	331	REVENUE	Fe HIO	57.48	CROSS SECTIONAL METHOD
4	B4	1718	62.50	0.00	107375.00	3.20	343600.00000	331	REVENUE	Fe HIO	57.32	CROSS SECTIONAL

16	B16	11650	62.50	0.00	728125.00	3.20	2330000.000 00	331	REVENUE	Fe HIO	57.65666666 6667	CROSS SECTIONA L METHOD
17	B17	10115	62.50	0.00	632187.50	3.20	2023000.000 00	331	REVENUE	Fe HIO	62.58	CROSS SECTIONA L METHOD
18	B18	11430	62.50	0.00	714375.00	3.20	2286000.000 00	331	REVENUE	Fe HIO	57.02333333 3333	CROSS SECTIONA L METHOD
19	B19	5035	62.50	0.00	314687.50	3.20	1007000.000 00	331	REVENUE	Fe HIO	56.73666666 6667	CROSS SECTIONA L METHOD
20	B20	7585	62.50	0.00	474062.50	3.20	1517000.000 00	331	REVENUE	Fe HIO	56.34333333 3333	CROSS SECTIONA L METHOD
21	B21	3450	62.50	0.00	215625.00	3.20	690000.0000 0	331	REVENUE	Fe HIO	56.46666666 6667	CROSS SECTIONA L METHOD
22	B22	3827	62.50	0.00	239187.50	3.20	765400.0000 0	331	REVENUE	Fe HIO	58.25333333 3333	CROSS SECTIONA L METHOD
23	B23	1861	62.50	0.00	116312.50	3.20	372200.0000 0	331	REVENUE	Fe HIO	58.39333333 3333	CROSS SECTIONA L METHOD
24	B24	2885	62.50	0.00	180312.50	3.20	577000.0000 0	331	REVENUE	Fe HIO	55.79333333 3333	CROSS SECTIONA L METHOD
25	C1	1724	62.50	0.00	107750.00	3.20	344800.0000 0	331	FOREST	Fe HIO	56.5	CROSS SECTIONA L METHOD
26	C2	3370	62.50	0.00	210625.00	3.20	674000.0000 0	331	FOREST	Fe HIO	57.08666666 6667	CROSS SECTIONA L METHOD
27	C3	2755	62.50	0.00	172187.50	3.20	551000.0000 0	331	FOREST	Fe HIO	56.90666666 6667	CROSS SECTIONA

39	C15	18402	62.50	0.00	1150125.00	3.20	3680400.000 00	331	FOREST	Fe HIO	61.24	CROSS SECTIONA L METHOD
40	C16	9954	62.50	0.00	622125.00	3.20	1990800.000 00	331	FOREST	Fe HIO	59.265	CROSS SECTIONA L METHOD
41	C17	12141	62.50	0.00	758812.50	3.20	2428200.000 00	331	FOREST	Fe HIO	59.01666666 6667	CROSS SECTIONA L METHOD
42	C18	12420	62.50	0.00	776250.00	3.20	2484000.000 00	331	FOREST	Fe HIO	58.34	CROSS SECTIONA L METHOD
43	C19	19360	62.50	0.00	1210000.00	3.20	3872000.000 00	331	FOREST	Fe HIO	57.95	CROSS SECTIONA L METHOD
44	C20	21518	62.50	0.00	1344875.00	3.20	4303600.000 00	331	FOREST	Fe HIO	58.36	CROSS SECTIONA L METHOD
45	C21	21355	62.50	0.00	1334687.50	3.20	4271000.000 00	331	FOREST	Fe HIO	61.405	CROSS SECTIONA L METHOD
46	C22	21706	62.50	0.00	1356625.00	3.20	4341200.000 00	331	FOREST	Fe HIO	58.56	CROSS SECTIONA L METHOD
47	C23	26539	62.50	0.00	1658687.50	3.20	5307800.000 00	331	FOREST	Fe HIO	57.24333333 3333	CROSS SECTIONA L METHOD
48	C24	13246	62.50	0.00	827875.00	3.20	2649200.000 00	331	FOREST	Fe HIO	57.3	CROSS SECTIONA L METHOD
49	C25	19803	62.50	0.00	1237687.50	3.20	3960600.000 00	331	FOREST	Fe HIO	57.84333333 3333	CROSS SECTIONA L METHOD
50	C26	8530	62.50	0.00	533125.00	3.20	1706000.000 00	331	FOREST	Fe HIO	57.92666666 6667	CROSS SECTIONA

62	C38	14151	62.50	0.00	884437.50	3.20	2830200.000 00	331	FOREST	Fe HIO	57.71333333 3333	CROSS SECTIONA L METHOD
63	C39	20199	62.50	0.00	1262437.50	3.20	4039800.000 00	331	FOREST	Fe HIO	57.49333333 3333	CROSS SECTIONA L METHOD
64	C40	17142	62.50	0.00	1071375.00	3.20	3428400.000 00	331	FOREST	Fe HIO	57.44333333 3333	CROSS SECTIONA L METHOD
65	C41	16493	62.50	0.00	1030812.50	3.20	3298600.000 00	331	FOREST	Fe HIO	58.07333333 3333	CROSS SECTIONA L METHOD
66	C42	19412	62.50	0.00	1213250.00	3.20	3882400.000 00	331	FOREST	Fe HIO	57.28333333 3333	CROSS SECTIONA L METHOD
67	C43	20191	62.50	0.00	1261937.50	3.20	4038200.000 00	331	FOREST	Fe HIO	57.14666666 6667	CROSS SECTIONA L METHOD
68	C44	13854	62.50	0.00	865875.00	3.20	2770800.000 00	331	FOREST	Fe HIO	57.97	CROSS SECTIONA L METHOD
69	C45	23950	62.50	0.00	1496875.00	3.20	4790000.000 00	331	FOREST	Fe HIO	57.78	CROSS SECTIONA L METHOD
70	C46	8889	62.50	0.00	555562.50	3.20	1777800.000 00	331	FOREST	Fe HIO	57.55	CROSS SECTIONA L METHOD
71	C47	11500	62.50	0.00	718750.00	3.20	2300000.000 00	331	FOREST	Fe HIO	57.28333333 3333	CROSS SECTIONA L METHOD
72	C48	17222	62.50	0.00	1076375.00	3.20	3444400.000 00	331	FOREST	Fe HIO	57.49666666 6667	CROSS SECTIONA L METHOD
73	C49	13840	62.50	0.00	865000.00	3.20	2768000.000 00	331	FOREST	Fe HIO	57.11666666 6667	CROSS SECTIONA

[illegible]

85	B8	2379	62.50	0.00	148687.50	2.90	431193.7500 0	331	REVENUE	Fe HSIO	40.77	CROSS SECTIONA L METHOD
86	B9	698	62.50	0.00	43625.00	2.90	126512.5000 0	331	REVENUE	Fe HSIO	42.52	CROSS SECTIONA L METHOD
87	B11	3747	62.50	0.00	234187.50	2.90	679143.7500 0	331	REVENUE	Fe HSIO	37.23	CROSS SECTIONA L METHOD
88	B12	645	62.50	0.00	40312.50	2.90	116906.2500 0	331	REVENUE	Fe HSIO	37.92	CROSS SECTIONA L METHOD
89	B13	1222	62.50	0.00	76375.00	2.90	221487.5000 0	331	REVENUE	Fe HSIO	38.49	CROSS SECTIONA L METHOD
90	B15	685	62.50	0.00	42812.50	2.90	124156.2500 0	331	REVENUE	Fe HSIO	42.62	CROSS SECTIONA L METHOD
91	B20	1119	62.50	0.00	69937.50	2.90	202818.7500 0	331	REVENUE	Fe HSIO	37.2	CROSS SECTIONA L METHOD
92	B21	2133	62.50	0.00	133312.50	2.90	386606.2500 0	331	REVENUE	Fe HSIO	40.12	CROSS SECTIONA L METHOD
93	B24	1500	62.50	0.00	93750.00	2.90	271875.0000 0	331	REVENUE	Fe HSIO	40.96	CROSS SECTIONA L METHOD
94	C1	1446	62.50	0.00	90375.00	2.90	262087.5000 0	331	FOREST	Fe HSIO	39.2	CROSS SECTIONA L METHOD
95	C2	1978	62.50	0.00	123625.00	2.90	358512.5000 0	331	FOREST	Fe HSIO	42.61	CROSS SECTIONA L METHOD
96	C3	192	62.50	0.00	12000.00	2.90	34800.00000	331	FOREST	Fe HSIO	44.46	CROSS SECTIONA

[illegible]

108	C15	2691	62.50	0.00	168187.50	2.90	487743.7500 0	331	FOREST	Fe HSIO	38.74	CROSS SECTIONA L METHOD
109	C16	4127	62.50	0.00	257937.50	2.90	748018.7500 0	331	FOREST	Fe HSIO	38.81	CROSS SECTIONA L METHOD
110	C17	1285	62.50	0.00	80312.50	2.90	232906.2500 0	331	FOREST	Fe HSIO	38.59	CROSS SECTIONA L METHOD
111	C18	515	62.50	0.00	32187.50	2.90	93343.75000	331	FOREST	Fe HSIO	38.81	CROSS SECTIONA L METHOD
112	C19	4655	62.50	0.00	290937.50	2.90	843718.7500 0	331	FOREST	Fe HSIO	39.99	CROSS SECTIONA L METHOD
113	C20	6103	62.50	0.00	381437.50	2.90	1106168.750 00	331	FOREST	Fe HSIO	39.31	CROSS SECTIONA L METHOD
114	C21	5727	62.50	0.00	357937.50	2.90	1038018.750 00	331	FOREST	Fe HSIO	38.52	CROSS SECTIONA L METHOD
115	C22	1891	62.50	0.00	118187.50	2.90	342743.7500 0	331	FOREST	Fe HSIO	37.35	CROSS SECTIONA L METHOD
116	C23	595	62.50	0.00	37187.50	2.90	107843.7500 0	331	FOREST	Fe HSIO	37.89	CROSS SECTIONA L METHOD
117	C24	5357	62.50	0.00	334812.50	2.90	970956.2500 0	331	FOREST	Fe HSIO	39.99	CROSS SECTIONA L METHOD
118	C25	3173	62.50	0.00	198312.50	2.90	575106.2500 0	331	FOREST	Fe HSIO	38.55	CROSS SECTIONA L METHOD
119	C26	1988	62.50	0.00	124250.00	2.90	360325.0000 0	331	FOREST	Fe HSIO	39.71	CROSS SECTIONA

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131	C42	337	62.50	0.00	21062.50	2.90	61081.25000	331	FOREST	Fe HSIO	39.52	CROSS SECTIONA L METHOD
132	C43	1295	62.50	0.00	80937.50	2.90	234718.7500 0	331	FOREST	Fe HSIO	39.11	CROSS SECTIONA L METHOD
133	C44	5966	62.50	0.00	372875.00	2.90	1081337.500 00	331	FOREST	Fe HSIO	39.86	CROSS SECTIONA L METHOD
134	C45	3254	62.50	0.00	203375.00	2.90	589787.5000 0	331	FOREST	Fe HSIO	40.52	CROSS SECTIONA L METHOD
135	C46	2407	62.50	0.00	150437.50	2.90	436268.7500 0	331	FOREST	Fe HSIO	39.2	CROSS SECTIONA L METHOD
136	C47	12944	62.50	0.00	809000.00	2.90	2346100.000 00	331	FOREST	Fe HSIO	39.73	CROSS SECTIONA L METHOD
137	C49	1609	62.50	0.00	100562.50	2.90	291631.2500 0	331	FOREST	Fe HSIO	38.94	CROSS SECTIONA L METHOD
138	C50	2796	62.50	0.00	174750.00	2.90	506775.0000 0	331	FOREST	Fe HSIO	39.91	CROSS SECTIONA L METHOD
139	C51	915	62.50	0.00	57187.50	2.90	165843.7500 0	331	FOREST	Fe HSIO	39.55	CROSS SECTIONA L METHOD
140	C52	865	62.50	0.00	54062.50	2.90	156781.2500 0	331	FOREST	Fe HSIO	39.55	CROSS SECTIONA L METHOD
141	C1	100	62.50	0.00	6250.00	3.20	20000.00000	332	FOREST	Fe HIO	56.8	CROSS SECTIONA L METHOD
142	C2	112.8	62.50	0.00	7050.00	3.20	22560.00000	332	FOREST	Fe HIO	57.08666666 6667	CROSS SECTIONA

[illegible]

154	C48	2766.6	62.50	0.00	172912.50	3.20	553320.0000 0	332	FOREST	Fe HIO	57.49666666 6667	CROSS SECTIONA L METHOD
155	C49	711	62.50	0.00	44437.50	3.20	142200.0000 0	332	FOREST	Fe HIO	57.11666666 6667	CROSS SECTIONA L METHOD
156	C50	1009	62.50	0.00	63062.50	3.20	201800.0000 0	332	FOREST	Fe HIO	56.46333333 3333	CROSS SECTIONA L METHOD
157	C52	973	62.50	0.00	60812.50	3.20	194600.0000 0	332	FOREST	Fe HIO	55.81	CROSS SECTIONA L METHOD
158	C47	458	62.50	0.00	28625.00	2.90	83012.50000	332	FOREST	Fe HSIO	40.43	CROSS SECTIONA L METHOD
159	C52	123	62.50	0.00	7687.50	2.90	22293.75000	332	FOREST	Fe HSIO	38.01	CROSS SECTIONA L METHOD
160	B2	6519	62.50	0.00	407437.50	3.20	1303800.000 00	331	REVENUE	Fe HIO	57.30666666 6667	CROSS SECTIONA L METHOD
161	B3	3841	62.50	0.00	240062.50	3.20	768200.0000 0	331	REVENUE	Fe HIO	57.34333333 3333	CROSS SECTIONA L METHOD
162	B4	3106	62.50	0.00	194125.00	3.20	621200.0000 0	331	REVENUE	Fe HIO	57.08666666 6667	CROSS SECTIONA L METHOD
163	B5	5998	62.50	0.00	374875.00	3.20	1199600.000 00	331	REVENUE	Fe HIO	57.16333333 3333	CROSS SECTIONA L METHOD
164	B6	1212	62.50	0.00	75750.00	3.20	242400.0000 0	331	REVENUE	Fe HIO	58.08	CROSS SECTIONA L METHOD
165	B7	5540.2	62.50	0.00	346262.50	3.20	1108040.000 00	331	REVENUE	Fe HIO	57.05	CROSS SECTIONA

177	B22	12695	62.50	0.00	793437.50	3.20	2539000.0000	331	REVENUE	Fe HIO	58.28	CROSS SECTIONAL METHOD
178	B23	4186	62.50	0.00	261625.00	3.20	837200.0000	331	REVENUE	Fe HIO	58.44333333	CROSS SECTIONAL METHOD
179	B1	3555	62.50	0.00	222187.50	2.90	644343.7500	331	REVENUE	Fe HSIO	39.24	CROSS SECTIONAL METHOD
180	B2	1773	62.50	0.00	110812.50	2.90	321356.2500	331	REVENUE	Fe HSIO	37.05	CROSS SECTIONAL METHOD
181	B3	972	62.50	0.00	60750.00	2.90	176175.0000	331	REVENUE	Fe HSIO	39.38	CROSS SECTIONAL METHOD
182	B4	2221	62.50	0.00	138812.50	2.90	402556.2500	331	REVENUE	Fe HSIO	39.02	CROSS SECTIONAL METHOD
183	B6	1054.6	62.50	0.00	65912.50	2.90	191146.2500	331	REVENUE	Fe HSIO	37.86	CROSS SECTIONAL METHOD
184	B8	450	62.50	0.00	28125.00	2.90	81562.50000	331	REVENUE	Fe HSIO	39.2	CROSS SECTIONAL METHOD
185	B9	1002	62.50	0.00	62625.00	2.90	181612.5000	331	REVENUE	Fe HSIO	41.19	CROSS SECTIONAL METHOD
186	B13	273	62.50	0.00	17062.50	2.90	49481.25000	331	REVENUE	Fe HSIO	39.47	CROSS SECTIONAL METHOD
187	B15	1045	62.50	0.00	65312.50	2.90	189406.2500	331	REVENUE	Fe HSIO	43.53	CROSS SECTIONAL METHOD
188	B17	492	62.50	0.00	30750.00	2.90	89175.00000	331	REVENUE	Fe HSIO	39.47	CROSS SECTIONAL

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200	B22	5178	62.50	0.00	323625.00	3.20	1035600.0000 00	331	REVENUE	Fe HIO	60.45	CROSS SECTIONA L METHOD
201	B23	725	62.50	0.00	45312.50	3.20	145000.0000 0	331	REVENUE	Fe HIO	55.865	CROSS SECTIONA L METHOD
202	B24	1162	62.50	0.00	72625.00	3.20	232400.0000 0	331	REVENUE	Fe HIO	56.20333333 3333	CROSS SECTIONA L METHOD
203	C5	170	62.50	0.00	10625.00	3.20	34000.00000	331	FOREST	Fe HIO	57.99	CROSS SECTIONA L METHOD
204	C7	3293	62.50	0.00	205812.50	3.20	658600.0000 0	331	FOREST	Fe HIO	58.51	CROSS SECTIONA L METHOD
205	C8	593	62.50	0.00	37062.50	3.20	118600.0000 0	331	FOREST	Fe HIO	57.59333333 3333	CROSS SECTIONA L METHOD
206	C9	278	62.50	0.00	17375.00	3.20	55600.00000	331	FOREST	Fe HIO	57.44333333 3333	CROSS SECTIONA L METHOD
207	C10	2899	62.50	0.00	181187.50	3.20	579800.0000 0	331	FOREST	Fe HIO	58.28333333 3333	CROSS SECTIONA L METHOD
208	C11	5876	62.50	0.00	367250.00	3.20	1175200.000 00	331	FOREST	Fe HIO	62.27	CROSS SECTIONA L METHOD
209	C12	3859	62.50	0.00	241187.50	3.20	771800.0000 0	331	FOREST	Fe HIO	58.65333333 3333	CROSS SECTIONA L METHOD
210	C13	3685	62.50	0.00	230312.50	3.20	737000.0000 0	331	FOREST	Fe HIO	58.29	CROSS SECTIONA L METHOD
211	C14	1074	62.50	0.00	67125.00	3.20	214800.0000 0	331	FOREST	Fe HIO	58.82666666 6667	CROSS SECTIONA

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223	C38	91	62.50	0.00	5687.50	3.20	18200.00000	331	FOREST	Fe HIO	59.1	CROSS SECTIONA L METHOD
224	C51	1969	62.50	0.00	123062.50	3.20	393800.0000 0	331	FOREST	Fe HIO	57.15	CROSS SECTIONA L METHOD
225	C52	1609	62.50	0.00	100562.50	3.20	321800.0000 0	331	FOREST	Fe HIO	57.15	CROSS SECTIONA L METHOD
226	C53	1643	62.50	0.00	102687.50	3.20	328600.0000 0	331	FOREST	Fe HIO	52.95	CROSS SECTIONA L METHOD
227	B12	1671	62.50	0.00	104437.50	2.90	302868.7500 0	331	REVENUE	Fe HSIO	39.26	CROSS SECTIONA L METHOD
228	B15	617	62.50	0.00	38562.50	2.90	111831.2500 0	331	REVENUE	Fe HSIO	43.53	CROSS SECTIONA L METHOD
229	B20	340	62.50	0.00	21250.00	2.90	61625.00000	331	REVENUE	Fe HSIO	37.97	CROSS SECTIONA L METHOD
230	B21	1378	62.50	0.00	86125.00	2.90	249762.5000 0	331	REVENUE	Fe HSIO	39.49	CROSS SECTIONA L METHOD
231	B24	870	62.50	0.00	54375.00	2.90	157687.5000 0	331	REVENUE	Fe HSIO	38.5	CROSS SECTIONA L METHOD
232	C5	2602	62.50	0.00	162625.00	2.90	471612.5000 0	331	FOREST	Fe HSIO	38.45	CROSS SECTIONA L METHOD
233	C6	1580	62.50	0.00	98750.00	2.90	286375.0000 0	331	FOREST	Fe HSIO	39.77	CROSS SECTIONA L METHOD
234	C7	1510	62.50	0.00	94375.00	2.90	273687.5000 0	331	FOREST	Fe HSIO	39.45	CROSS SECTIONA

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246	B14	840	62.50	0.00	52500.00	3.20	168000.0000 0	331	REVENUE	Fe HIO	58.56	CROSS SECTIONA L METHOD
247	B23	489	62.50	0.00	30562.50	3.20	97800.00000	331	REVENUE	Fe HIO	56.7	CROSS SECTIONA L METHOD
248	C6	1775	62.50	0.00	110937.50	3.20	355000.0000 0	331	FOREST	Fe HIO	58.72	CROSS SECTIONA L METHOD
249	C23	449	62.50	0.00	28062.50	3.20	89800.00000	331	FOREST	Fe HIO	58.61	CROSS SECTIONA L METHOD
250	C27	942	62.50	0.00	58875.00	3.20	188400.0000 0	331	FOREST	Fe HIO	51.45	CROSS SECTIONA L METHOD
251	C32	254	62.50	0.00	15875.00	3.20	50800.00000	331	FOREST	Fe HIO	58.5	CROSS SECTIONA L METHOD
252	C33	1326	62.50	0.00	82875.00	3.20	265200.0000 0	331	FOREST	Fe HIO	56.82	CROSS SECTIONA L METHOD
253	B10	1769	62.50	0.00	110562.50	2.90	320631.2500 0	331	REVENUE	Fe HSIO	43.59	CROSS SECTIONA L METHOD
254	C3	1599	62.50	0.00	99937.50	2.90	289818.7500 0	331	FOREST	Fe HSIO	40.2	CROSS SECTIONA L METHOD
255	C9	7111	62.50	0.00	444437.50	2.90	1288868.750 00	331	FOREST	Fe HSIO	39.22	CROSS SECTIONA L METHOD
256	C17	520	62.50	0.00	32500.00	2.90	94250.00000	331	FOREST	Fe HSIO	37.3	CROSS SECTIONA L METHOD
257	C18	3591	62.50	0.00	224437.50	2.90	650868.7500 0	331	FOREST	Fe HSIO	35.12	CROSS SECTIONA

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269	C44	1200	62.50	0.00	75000.00	2.90	217500.0000 0	331	FOREST	Fe HSIO	40.43	CROSS SECTIONA L METHOD
270	B1	755	62.50	0.00	47187.50	3.20	151000.0000 0	331	REVENUE	Fe HIO	57.30666666 6667	CROSS SECTIONA L METHOD
271	B2	59	62.50	0.00	3687.50	3.20	11800.00000	331	REVENUE	Fe HIO	57.34333333 3333	CROSS SECTIONA L METHOD
272	B3	129	62.50	0.00	8062.50	3.20	25800.00000	331	REVENUE	Fe HIO	57.08666666 6667	CROSS SECTIONA L METHOD
273	B5	23	62.50	0.00	1437.50	3.20	4600.00000	331	REVENUE	Fe HIO	57.16333333 3333	CROSS SECTIONA L METHOD
274	B6	49	62.50	0.00	3062.50	3.20	9800.00000	331	REVENUE	Fe HIO	58.08	CROSS SECTIONA L METHOD
275	B15	77	62.50	0.00	4812.50	3.20	15400.00000	331	REVENUE	Fe HIO	57.05	CROSS SECTIONA L METHOD
276	B16	254	62.50	0.00	15875.00	3.20	50800.00000	331	REVENUE	Fe HIO	58.53	CROSS SECTIONA L METHOD
277	B22	50	62.50	0.00	3125.00	3.20	10000.00000	331	REVENUE	Fe HIO	61.175	CROSS SECTIONA L METHOD
278	B23	47	62.50	0.00	2937.50	3.20	9400.00000	331	REVENUE	Fe HIO	61.475	CROSS SECTIONA L METHOD
279	C3	528	62.50	0.00	33000.00	3.20	105600.0000 0	331	FOREST	Fe HIO	56.90666666 6667	CROSS SECTIONA L METHOD
280	C4	1032	62.50	0.00	64500.00	3.20	206400.0000 0	331	FOREST	Fe HIO	57.83333333 3333	CROSS SECTIONA

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292	C17	89	62.50	0.00	5562.50	3.20	17800.00000	331	FOREST	Fe HIO	59.265	CROSS SECTIONA L METHOD
293	C18	141	62.50	0.00	8812.50	3.20	28200.00000	331	FOREST	Fe HIO	59.01666666 6667	CROSS SECTIONA L METHOD
294	C19	22	62.50	0.00	1375.00	3.20	4400.00000	331	FOREST	Fe HIO	58.34	CROSS SECTIONA L METHOD
295	C20	161	62.50	0.00	10062.50	3.20	32200.00000	331	FOREST	Fe HIO	57.95	CROSS SECTIONA L METHOD
296	C21	170	62.50	0.00	10625.00	3.20	34000.00000	331	FOREST	Fe HIO	58.36	CROSS SECTIONA L METHOD
297	C22	150	62.50	0.00	9375.00	3.20	30000.00000	331	FOREST	Fe HIO	61.405	CROSS SECTIONA L METHOD
298	C23	239	62.50	0.00	14937.50	3.20	47800.00000	331	FOREST	Fe HIO	58.56	CROSS SECTIONA L METHOD
299	C36	160	62.50	0.00	10000.00	3.20	32000.00000	331	FOREST	Fe HIO	58.40333333 3333	CROSS SECTIONA L METHOD
300	C37	193	62.50	0.00	12062.50	3.20	38600.00000	331	FOREST	Fe HIO	58.47	CROSS SECTIONA L METHOD
301	C38	378	62.50	0.00	23625.00	3.20	75600.00000	331	FOREST	Fe HIO	57.71333333 3333	CROSS SECTIONA L METHOD
302	B1	2203	62.50	0.00	137687.50	2.90	399293.7500 0	331	REVENUE	Fe HSIO	39.26	CROSS SECTIONA L METHOD
303	B5	22	62.50	0.00	1375.00	2.90	3987.50000	331	REVENUE	Fe HSIO	43.53	CROSS SECTIONA

315	C60	8400	62.50	0.00	525000.00	3.20	1680000.000 00	333	FOREST	Fe HIO	55	CROSS SECTIONA L METHOD
316	C61	7200	62.50	0.00	450000.00	3.20	1440000.000 00	333	FOREST	Fe HIO	55	CROSS SECTIONA L METHOD
317	C62	6600	62.50	0.00	412500.00	3.20	1320000.000 00	333	FOREST	Fe HIO	55	CROSS SECTIONA L METHOD
318	C63	6000	62.50	0.00	375000.00	3.20	1200000.000 00	333	FOREST	Fe HIO	55	CROSS SECTIONA L METHOD
319	C64	4800	62.50	0.00	300000.00	3.20	960000.0000 0	333	FOREST	Fe HIO	55	CROSS SECTIONA L METHOD
Total					101612343.7 5		320507201.2 5000					

2A.2.4.3: Mineral Resource Estimate for Conversion to Mineral Reserve

The mineral reserves are estimated from the geological resources by deducting the blocked resources. Ore blocked are due to HT Power line, Village Road and ore below UPL, 7.5m safety zone along lease boundary. These can not be mined out as of now. Other resources such 333 will be converted to minable reserves by proposed exploration, which are planned for the year 2025-26, 2026-27. No mineral reserves and resources are estimated for Non-FC area of 162.31ha as there is no exploration data.

2A.2.4.4: Threshold value & Cut off Parameters

Threshold value for Haematitic ore is +45% Fe (min) and for Haematitic siliceous ore it is +35-45% Fe (min) as per IBM notification no. C-284/3/CMG/2017 dated 25th April 2018 and cut-off grade for Haematitic ore and Haematitic siliceous ore is same as above threshold value.

2A.2.4.5: Mining Factors or Assumptions

The mining factors and assumption with respect to estimation of Reserves and resources within the lease area are arrived based on the various factors such as: • Mining is by opencast fully mechanized method, with benches of 6m height and width of 12m (generally more than 8m). Haul Road has 12-16 m width and average gradient of 1 in 16 to 1 in 20 except in short ramps. The face

slope is around 80 degree and overall pit slope is being maintained at 25° for the plan period. However, overall slope of the pit is considered as 45 degree for reserves and resources estimation. Drilling and blasting will be used for hard formations. Ore to OB ratio is varies from 1:0.20 to 1: 0.11 in this plan period. • ROM recovery factor is 100% for ore as no intercalations are present in the ore zone. Reserves are estimated as part of resources which are within the ultimate pit limit considering the minable depth as well as ultimate pit slope. Mineral / ore blocked at the 7.5m safety zone adjacent to lease boundary where necessary permissions are not available are classified as feasibility (blocked) resources. No mineral reserves and resources are estimated for Non-FC area of 162.31ha as there is no exploration data.

2A.2.4.6: Metallurgical Factors or Assumptions

NIL

2A.2.4.7: Cost & Revenue Factors

The average operating cost of Kumaraswamy Iron Ore Mine for the last year (FY 2023-2024) was Rs. 2302.7 per ton (As per Annual IBM return).The average sale price of the ore as reported for the last year (FY 2023-2024) was Rs. 3870.71 per ton. Hence, profit is Rs. 1568 per ton. Details of costs and revenue are given in Feasibility Report, enclosed in Annexure-14.

2A.2.4.8: Market Assessment

For the Past 5 Years KIOM has been catering to more than 70 different customers. Customers segment majorly include the Steel Industries, Sponge Iron Ore industries, Pellet Plant Industries and beneficiation Industries. M/s JSW Steel Ltd is situated with 30km accounts for more than 40% of the Annual sales. In the recent year due to rise in the DRI demand by small to mid size industries there has been a significant increase in the number of Sponge customers participating in spot auctions. 100% supply is based on domestic demands and exports have not commenced from KIOM.

2A.2.4.9: Other Modifying Factors

Blocked Resources include Public road passing through Mining Lease and Blocked due to not accessible other mine (DMS) Lease and un-diverted forest land within the Lease area. No mineral reserves and resources are estimated for Non-FC area of 162.31ha as there is no exploration data. Apart from this, the Central Empowered Committee (CEC) has capped the production capacity at 8.268 million tons/annum for this Mining lease, hence Production proposals are made accordingly.

2A.2.4.10: Classification

The ore reserves/resources are categorized as per UNFC into the following: Proved Mineral Reserves (111) are estimated based on the data of G-1 level of exploration (up to 100 x 62.5m grid interval) without projecting depth limits beyond the borehole bottom and lateral extensions of extreme boreholes. Probable Mineral Reserves (122) are estimated based on the data of G-2 level of exploration. Mineral blocked in the areas of safety zone of 7.5m along the boundary as no common boundary working permission is present, and due HT Powerline, Village Road, below UPL are

(Feasibility Mineral Resources-211) estimated separately as blocked, which are not minable. Inferred Mineral Resources (333) are estimated below proved level based on geological extension of the individual lithology where borehole data is not present. No mineral reserves and resources are estimated for Non-FC area of 162.31 ha as there is no exploration data.

2A.2.4.11: Calculation of blocked resources

SI.No.	Reserves blocked due to	Cross section/Block	Sectional area/ block area (in Sq mtr)	Influence (m)	Depth (m)	Volume (m ³)	Bulk Density (t/m ³)	Resource Quantity (t)	UNFC code	Type of Land	Name of the radical	Grade (%)	Method used for resource estimation
1	Public roads (Tar road, cart road)	B2	6519.00	62.50	0.00	407437.50	3.20	1303800.00000	211	REVENUE	Fe HIO	57.306666666667	CROSS SECTIONAL METHOD
2	Public roads (Tar road, cart road)	B3	3841.00	62.50	0.00	240062.50	3.20	768200.00000	211	REVENUE	Fe HIO	57.343333333333	CROSS SECTIONAL METHOD
3	Public roads (Tar road, cart road)	B4	3106.00	62.50	0.00	194125.00	3.20	621200.00000	211	REVENUE	Fe HIO	57.086666666667	CROSS SECTIONAL METHOD
4	Public roads (Tar road, cart road)	B5	5998.00	62.50	0.00	374875.00	3.20	1199600.00000	211	REVENUE	Fe HIO	57.163333333333	CROSS SECTIONAL METHOD
5	Public roads (Tar road, cart road)	B6	1212.00	62.50	0.00	75750.00	3.20	242400.00000	211	REVENUE	Fe HIO	58.08	CROSS SECTIONAL METHOD
6	Public roads (Tar road, cart road)	B7	5540.20	62.50	0.00	346262.50	3.20	1108040.00000	211	REVENUE	Fe HIO	57.05	CROSS SECTIONAL METHOD
7	Public roads (Tar	B8	7141.50	62.50	0.00	446343.75	3.20	1428300.00000	211	REVENUE	Fe HIO	58.53	CROSS SECTIONAL

	road, cart road)												METHOD
8	Public roads (Tar road, cart road)	B9	11542.00	62.50	0.00	721375.00	3.20	2308400.0000	211	REVENUE	Fe HIO	61.175	CROSS SECTIONAL METHOD
9	Public roads (Tar road, cart road)	B10	3210.00	62.50	0.00	200625.00	3.20	642000.0000	211	REVENUE	Fe HIO	61.475	CROSS SECTIONAL METHOD
10	Public roads (Tar road, cart road)	B11	4173.00	62.50	0.00	260812.50	3.20	834600.0000	211	REVENUE	Fe HIO	62.125	CROSS SECTIONAL METHOD
11	Public roads (Tar road, cart road)	B12	5891.90	62.50	0.00	368243.75	3.20	1178380.0000	211	REVENUE	Fe HIO	62.3	CROSS SECTIONAL METHOD
12	Public roads (Tar road, cart road)	B13	6899.00	62.50	0.00	431187.50	3.20	1379800.0000	211	REVENUE	Fe HIO	59.096666666667	CROSS SECTIONAL METHOD
13	Public roads (Tar road, cart road)	B14	3160.50	62.50	0.00	197531.25	3.20	632100.0000	211	REVENUE	Fe HIO	58.906666666667	CROSS SECTIONAL METHOD
14	Public roads (Tar road, cart road)	B15	1226.00	62.50	0.00	76625.00	3.20	245200.0000	211	REVENUE	Fe HIO	58.45	CROSS SECTIONAL METHOD
15	Public roads (Tar road, cart road)	B16	6914.00	62.50	0.00	432125.00	3.20	1382800.0000	211	REVENUE	Fe HIO	58.45	CROSS SECTIONAL METHOD
16	Public roads (Tar	B17	5606.00	62.50	0.00	350375.00	3.20	1121200.0000	211	REVENUE	Fe HIO	66.15	CROSS SECTIONAL

	road, cart road)												METHOD
17	Public roads (Tar road, cart road)	B18	7757.00	62.50	0.00	484812.50	3.20	1551400.0000	211	REVENUE	Fe HIO	66.43	CROSS SECTIONAL METHOD
18	Public roads (Tar road, cart road)	B22	12695.00	62.50	0.00	793437.50	3.20	2539000.0000	211	REVENUE	Fe HIO	58.28	CROSS SECTIONAL METHOD
19	Public roads (Tar road, cart road)	B23	4186.00	62.50	0.00	261625.00	3.20	837200.0000	211	REVENUE	Fe HIO	58.44333333333333	CROSS SECTIONAL METHOD
20	Public roads (Tar road, cart road)	B1	3555.00	62.50	0.00	222187.50	2.90	644343.7500	211	REVENUE	Fe HSIO	39.24	CROSS SECTIONAL METHOD
21	Public roads (Tar road, cart road)	B2	1773.00	62.50	0.00	110812.50	2.90	321356.2500	211	REVENUE	Fe HSIO	37.05	CROSS SECTIONAL METHOD
22	Public roads (Tar road, cart road)	B3	972.00	62.50	0.00	60750.00	2.90	176175.0000	211	REVENUE	Fe HSIO	39.38	CROSS SECTIONAL METHOD
23	Public roads (Tar road, cart road)	B4	2221.00	62.50	0.00	138812.50	2.90	402556.2500	211	REVENUE	Fe HSIO	39.02	CROSS SECTIONAL METHOD
24	Public roads (Tar road, cart road)	B6	1054.60	62.50	0.00	65912.50	2.90	191146.2500	211	REVENUE	Fe HSIO	37.86	CROSS SECTIONAL METHOD
25	Public roads (Tar	B8	450.00	62.50	0.00	28125.00	2.90	81562.50000	211	REVENUE	Fe HSIO	39.2	CROSS SECTIONAL

	road, cart road)												METHOD
26	Public roads (Tar road, cart road)	B9	1002.00	62.50	0.00	62625.00	2.90	181612.5000	211	REVENUE	Fe HSIO	41.19	CROSS SECTIONAL METHOD
27	Public roads (Tar road, cart road)	B13	273.00	62.50	0.00	17062.50	2.90	49481.25000	211	REVENUE	Fe HSIO	39.47	CROSS SECTIONAL METHOD
28	Public roads (Tar road, cart road)	B15	1045.00	62.50	0.00	65312.50	2.90	189406.25000	211	REVENUE	Fe HSIO	43.53	CROSS SECTIONAL METHOD
29	Public roads (Tar road, cart road)	B17	492.00	62.50	0.00	30750.00	2.90	89175.00000	211	REVENUE	Fe HSIO	39.47	CROSS SECTIONAL METHOD
30	Public roads (Tar road, cart road)	B18	1479.00	62.50	0.00	92437.50	2.90	268068.75000	211	REVENUE	Fe HSIO	40.25	CROSS SECTIONAL METHOD
31	7.5 Meter Safety Barrier	B12	5567.60	62.50	0.00	347975.00	3.20	1113520.00000	211	REVENUE	Fe HIO	54.74	CROSS SECTIONAL METHOD
32	7.5 Meter Safety Barrier	B13	1211.00	62.50	0.00	75687.50	3.20	242200.00000	211	REVENUE	Fe HIO	57.706666666667	CROSS SECTIONAL METHOD
33	7.5 Meter Safety Barrier	B14	2037.00	62.50	0.00	127312.50	3.20	407400.00000	211	REVENUE	Fe HIO	57.29	CROSS SECTIONAL METHOD
34	7.5 Meter Safety Barrier	B15	5888.00	62.50	0.00	368000.00	3.20	1177600.00000	211	REVENUE	Fe HIO	57.82	CROSS SECTIONAL METHOD
35	7.5 Meter	B16	8929.00	62.50	0.00	558062.50	3.20	1785800.00	211	REVENUE	Fe HIO	59.165	CROSS SE

	Safety Barrier							000					CTIONAL METHOD
36	7.5 Meter Safety Barrier	B17	6856.00	62.50	0.00	428500.00	3.20	1371200.00 000	211	REVENUE	Fe HIO	66.06	CROSS SE CTIONAL METHOD
37	7.5 Meter Safety Barrier	B18	8519.00	62.50	0.00	532437.50	3.20	1703800.00 000	211	REVENUE	Fe HIO	55.945	CROSS SE CTIONAL METHOD
38	7.5 Meter Safety Barrier	B19	5306.00	62.50	0.00	331625.00	3.20	1061200.00 000	211	REVENUE	Fe HIO	55.385	CROSS SE CTIONAL METHOD
39	7.5 Meter Safety Barrier	B20	4750.00	62.50	0.00	296875.00	3.20	950000.000 00	211	REVENUE	Fe HIO	55.295	CROSS SE CTIONAL METHOD
40	7.5 Meter Safety Barrier	B21	11606.00	62.50	0.00	725375.00	3.20	2321200.00 000	211	REVENUE	Fe HIO	56.76	CROSS SE CTIONAL METHOD
41	7.5 Meter Safety Barrier	B22	5178.00	62.50	0.00	323625.00	3.20	1035600.00 000	211	REVENUE	Fe HIO	60.45	CROSS SE CTIONAL METHOD
42	7.5 Meter Safety Barrier	B23	725.00	62.50	0.00	45312.50	3.20	145000.000 00	211	REVENUE	Fe HIO	55.865	CROSS SE CTIONAL METHOD
43	7.5 Meter Safety Barrier	B24	1162.00	62.50	0.00	72625.00	3.20	232400.000 00	211	REVENUE	Fe HIO	56.2033333 33333	CROSS SE CTIONAL METHOD
44	7.5 Meter Safety Barrier	C5	170.00	62.50	0.00	10625.00	3.20	34000.0000 0	211	FOREST	Fe HIO	57.99	CROSS SE CTIONAL METHOD
45	7.5 Meter Safety Barrier	C7	3293.00	62.50	0.00	205812.50	3.20	658600.000 00	211	FOREST	Fe HIO	58.51	CROSS SE CTIONAL METHOD
46	7.5 Meter Safety Barrier	C8	593.00	62.50	0.00	37062.50	3.20	118600.000 00	211	FOREST	Fe HIO	57.5933333 33333	CROSS SE CTIONAL METHOD

47	7.5 Meter Safety Barrier	C9	278.00	62.50	0.00	17375.00	3.20	55600.00000	211	FOREST	Fe HIO	57.4433333333333	CROSS SECTIONAL METHOD
48	7.5 Meter Safety Barrier	C10	2899.00	62.50	0.00	181187.50	3.20	579800.00000	211	FOREST	Fe HIO	58.2833333333333	CROSS SECTIONAL METHOD
49	7.5 Meter Safety Barrier	C11	5876.00	62.50	0.00	367250.00	3.20	1175200.00000	211	FOREST	Fe HIO	62.27	CROSS SECTIONAL METHOD
50	7.5 Meter Safety Barrier	C12	3859.00	62.50	0.00	241187.50	3.20	771800.00000	211	FOREST	Fe HIO	58.6533333333333	CROSS SECTIONAL METHOD
51	7.5 Meter Safety Barrier	C13	3685.00	62.50	0.00	230312.50	3.20	737000.00000	211	FOREST	Fe HIO	58.29	CROSS SECTIONAL METHOD
52	7.5 Meter Safety Barrier	C14	1074.00	62.50	0.00	67125.00	3.20	214800.00000	211	FOREST	Fe HIO	58.8266666666667	CROSS SECTIONAL METHOD
53	7.5 Meter Safety Barrier	C15	2286.00	62.50	0.00	142875.00	3.20	457200.00000	211	FOREST	Fe HIO	58.9133333333333	CROSS SECTIONAL METHOD
54	7.5 Meter Safety Barrier	C16	1123.00	62.50	0.00	70187.50	3.20	224600.00000	211	FOREST	Fe HIO	58.59	CROSS SECTIONAL METHOD
55	7.5 Meter Safety Barrier	C17	13183.00	62.50	0.00	823937.50	3.20	2636600.00000	211	FOREST	Fe HIO	64.93	CROSS SECTIONAL METHOD
56	7.5 Meter Safety Barrier	C18	4951.00	62.50	0.00	309437.50	3.20	990200.00000	211	FOREST	Fe HIO	59.54	CROSS SECTIONAL METHOD
57	7.5 Meter Safety Barrier	C19	748.00	62.50	0.00	46750.00	3.20	149600.00000	211	FOREST	Fe HIO	59.905	CROSS SECTIONAL METHOD
58	7.5 Meter Safety	C20	4660.00	62.50	0.00	291250.00	3.20	932000.00000	211	FOREST	Fe HIO	63.86	CROSS SECTIONAL

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70	7.5 Meter Safety Barrier	B20	340.00	62.50	0.00	21250.00	2.90	61625.00000	211	REVENUE	Fe HSIO	37.97	CROSS SECTIONAL METHOD
71	7.5 Meter Safety Barrier	B21	1378.00	62.50	0.00	86125.00	2.90	249762.50000	211	REVENUE	Fe HSIO	39.49	CROSS SECTIONAL METHOD
72	7.5 Meter Safety Barrier	B24	870.00	62.50	0.00	54375.00	2.90	157687.50000	211	REVENUE	Fe HSIO	38.5	CROSS SECTIONAL METHOD
73	7.5 Meter Safety Barrier	C5	2602.00	62.50	0.00	162625.00	2.90	471612.50000	211	FOREST	Fe HSIO	38.45	CROSS SECTIONAL METHOD
74	7.5 Meter Safety Barrier	C6	1580.00	62.50	0.00	98750.00	2.90	286375.00000	211	FOREST	Fe HSIO	39.77	CROSS SECTIONAL METHOD
75	7.5 Meter Safety Barrier	C7	1510.00	62.50	0.00	94375.00	2.90	273687.50000	211	FOREST	Fe HSIO	39.45	CROSS SECTIONAL METHOD
76	7.5 Meter Safety Barrier	C8	1661.00	62.50	0.00	103812.50	2.90	301056.25000	211	FOREST	Fe HSIO	38.71	CROSS SECTIONAL METHOD
77	7.5 Meter Safety Barrier	C9	1984.00	62.50	0.00	124000.00	2.90	359600.00000	211	FOREST	Fe HSIO	39.22	CROSS SECTIONAL METHOD
78	7.5 Meter Safety Barrier	C14	54.00	62.50	0.00	3375.00	2.90	9787.50000	211	FOREST	Fe HSIO	38.5	CROSS SECTIONAL METHOD
79	7.5 Meter Safety Barrier	C16	411.00	62.50	0.00	25687.50	2.90	74493.75000	211	FOREST	Fe HSIO	38.15	CROSS SECTIONAL METHOD
80	7.5 Meter Safety Barrier	C17	212.00	62.50	0.00	13250.00	2.90	38425.00000	211	FOREST	Fe HSIO	37.3	CROSS SECTIONAL METHOD
81	7.5 Meter Safety	C23	418.00	62.50	0.00	26125.00	2.90	75762.50000	211	FOREST	Fe HSIO	37.88	CROSS SECTIONAL

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93	Ultimate Pit Limit	C33	1326.00	62.50	0.00	82875.00	3.20	265200.0000	211	FOREST	Fe HIO	56.82	CROSS SECTIONAL METHOD
94	Ultimate Pit Limit	B10	1769.00	62.50	0.00	110562.50	2.90	320631.2500	211	REVENUE	Fe HSIO	43.59	CROSS SECTIONAL METHOD
95	Ultimate Pit Limit	C3	1599.00	62.50	0.00	99937.50	2.90	289818.7500	211	FOREST	Fe HSIO	40.2	CROSS SECTIONAL METHOD
96	Ultimate Pit Limit	C9	7111.00	62.50	0.00	444437.50	2.90	1288868.75000	211	FOREST	Fe HSIO	39.22	CROSS SECTIONAL METHOD
97	Ultimate Pit Limit	C17	520.00	62.50	0.00	32500.00	2.90	94250.00000	211	FOREST	Fe HSIO	37.3	CROSS SECTIONAL METHOD
98	Ultimate Pit Limit	C18	3591.00	62.50	0.00	224437.50	2.90	650868.7500	211	FOREST	Fe HSIO	35.12	CROSS SECTIONAL METHOD
99	Ultimate Pit Limit	C22	525.00	62.50	0.00	32812.50	2.90	95156.25000	211	FOREST	Fe HSIO	37.99	CROSS SECTIONAL METHOD
100	Ultimate Pit Limit	C23	99.00	62.50	0.00	6187.50	2.90	17943.75000	211	FOREST	Fe HSIO	37.88	CROSS SECTIONAL METHOD
101	Ultimate Pit Limit	C27	580.00	62.50	0.00	36250.00	2.90	105125.00000	211	FOREST	Fe HSIO	40.21	CROSS SECTIONAL METHOD
102	Ultimate Pit Limit	C28	340.00	62.50	0.00	21250.00	2.90	61625.00000	211	FOREST	Fe HSIO	40.21	CROSS SECTIONAL METHOD
103	Ultimate Pit Limit	C30	682.00	62.50	0.00	42625.00	2.90	123612.5000	211	FOREST	Fe HSIO	40.21	CROSS SECTIONAL METHOD
104	Ultimate Pit Limit	C31	655.00	62.50	0.00	40937.50	2.90	118718.7500	211	FOREST	Fe HSIO	39.2	CROSS SECTIONAL

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116	High Tension Lines	B15	77.00	62.50	0.00	4812.50	3.20	15400.00000	211	REVENUE	Fe HIO	57.05	CROSS SECTIONAL METHOD
117	High Tension Lines	B16	254.00	62.50	0.00	15875.00	3.20	50800.00000	211	REVENUE	Fe HIO	58.53	CROSS SECTIONAL METHOD
118	High Tension Lines	B22	50.00	62.50	0.00	3125.00	3.20	10000.00000	211	REVENUE	Fe HIO	61.175	CROSS SECTIONAL METHOD
119	High Tension Lines	B23	47.00	62.50	0.00	2937.50	3.20	9400.000000	211	REVENUE	Fe HIO	61.475	CROSS SECTIONAL METHOD
120	High Tension Lines	C3	528.00	62.50	0.00	33000.00	3.20	105600.00000	211	FOREST	Fe HIO	56.906666666667	CROSS SECTIONAL METHOD
121	High Tension Lines	C4	1032.00	62.50	0.00	64500.00	3.20	206400.00000	211	FOREST	Fe HIO	57.833333333333	CROSS SECTIONAL METHOD
122	High Tension Lines	C5	6053.00	62.50	0.00	378312.50	3.20	1210600.00000	211	FOREST	Fe HIO	58.076666666667	CROSS SECTIONAL METHOD
123	High Tension Lines	C6	2590.00	62.50	0.00	161875.00	3.20	518000.00000	211	FOREST	Fe HIO	57.803333333333	CROSS SECTIONAL METHOD
124	High Tension Lines	C7	210.00	62.50	0.00	13125.00	3.20	42000.00000	211	FOREST	Fe HIO	58.88	CROSS SECTIONAL METHOD
125	High Tension Lines	C8	436.00	62.50	0.00	27250.00	3.20	87200.00000	211	FOREST	Fe HIO	58.45	CROSS SECTIONAL METHOD
126	High Tension Lines	C9	208.00	62.50	0.00	13000.00	3.20	41600.00000	211	FOREST	Fe HIO	57.79	CROSS SECTIONAL METHOD
127	High Tension	C10	94.00	62.50	0.00	5875.00	3.20	18800.00000	211	FOREST	Fe HIO	57.743333333333	CROSS SECTIONAL

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139	High Tension Lines	C23	239.00	62.50	0.00	14937.50	3.20	47800.00000	211	FOREST	Fe HIO	58.56	CROSS SECTIONAL METHOD
140	High Tension Lines	C36	160.00	62.50	0.00	10000.00	3.20	32000.00000	211	FOREST	Fe HIO	58.4033333333333	CROSS SECTIONAL METHOD
141	High Tension Lines	C37	193.00	62.50	0.00	12062.50	3.20	38600.00000	211	FOREST	Fe HIO	58.47	CROSS SECTIONAL METHOD
142	High Tension Lines	C38	378.00	62.50	0.00	23625.00	3.20	75600.00000	211	FOREST	Fe HIO	57.7133333333333	CROSS SECTIONAL METHOD
143	High Tension Lines	B1	2203.00	62.50	0.00	137687.50	2.90	399293.75000	211	REVENUE	Fe HSIO	39.26	CROSS SECTIONAL METHOD
144	High Tension Lines	B5	22.00	62.50	0.00	1375.00	2.90	3987.50000	211	REVENUE	Fe HSIO	43.53	CROSS SECTIONAL METHOD
145	High Tension Lines	B6	63.00	62.50	0.00	3937.50	2.90	11418.75000	211	REVENUE	Fe HSIO	37.97	CROSS SECTIONAL METHOD
146	High Tension Lines	C3	15.00	62.50	0.00	937.50	2.90	2718.75000	211	FOREST	Fe HSIO	39.49	CROSS SECTIONAL METHOD
147	High Tension Lines	C5	2527.00	62.50	0.00	157937.50	2.90	458018.75000	211	FOREST	Fe HSIO	37.49	CROSS SECTIONAL METHOD
148	High Tension Lines	C36	159.00	62.50	0.00	9937.50	2.90	28818.75000	211	FOREST	Fe HSIO	36.42	CROSS SECTIONAL METHOD
149	High Tension Lines	C37	55.00	62.50	0.00	3437.50	2.90	9968.75000	211	FOREST	Fe HSIO	38.92	CROSS SECTIONAL METHOD
Total						19938143.75		62664111.25					

2A.2.4.12: Calculation of Reserves - I

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10	B10	1140	62.50	0.00	71250.00	3.20	228000.00	111	REVENUE	Fe HIO	58.65666666 6667	CROSS SECTIONA L METHOD
11	B11	7791	62.50	0.00	486937.50	3.20	1558200.00	111	REVENUE	Fe HIO	58	CROSS SECTIONA L METHOD
12	B12	11104	62.50	0.00	694000.00	3.20	2220800.00	111	REVENUE	Fe HIO	58.01	CROSS SECTIONA L METHOD
13	B13	2898	62.50	0.00	181125.00	3.20	579600.00	111	REVENUE	Fe HIO	58.24666666 6667	CROSS SECTIONA L METHOD
14	B14	2723	62.50	0.00	170187.50	3.20	544600.00	111	REVENUE	Fe HIO	58.88666666 6667	CROSS SECTIONA L METHOD
15	B15	8145	62.50	0.00	509062.50	3.20	1629000.00	111	REVENUE	Fe HIO	58.25	CROSS SECTIONA L METHOD
16	B16	11650	62.50	0.00	728125.00	3.20	2330000.00	111	REVENUE	Fe HIO	57.65666666 6667	CROSS SECTIONA L METHOD
17	B17	10115	62.50	0.00	632187.50	3.20	2023000.00	111	REVENUE	Fe HIO	62.58	CROSS SECTIONA L METHOD
18	B18	11430	62.50	0.00	714375.00	3.20	2286000.00	111	REVENUE	Fe HIO	57.02333333 3333	CROSS SECTIONA L METHOD
19	B19	5035	62.50	0.00	314687.50	3.20	1007000.00	111	REVENUE	Fe HIO	56.73666666 6667	CROSS SECTIONA L METHOD
20	B20	7585	62.50	0.00	474062.50	3.20	1517000.00	111	REVENUE	Fe HIO	56.34333333 3333	CROSS SECTIONA L METHOD
21	B21	3450	62.50	0.00	215625.00	3.20	690000.00	111	REVENUE	Fe HIO	56.46666666 6667	CROSS SECTIONA

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33	C9	21664	62.50	0.00	1354000.00	3.20	4332800.00	111	FOREST	Fe HIO	57.79	CROSS SECTIONA L METHOD
34	C10	16109	62.50	0.00	1006812.50	3.20	3221800.00	111	FOREST	Fe HIO	57.74333333 3333	CROSS SECTIONA L METHOD
35	C11	20820	62.50	0.00	1301250.00	3.20	4164000.00	111	FOREST	Fe HIO	57.81666666 6667	CROSS SECTIONA L METHOD
36	C12	20337	62.50	0.00	1271062.50	3.20	4067400.00	111	FOREST	Fe HIO	58.44666666 6667	CROSS SECTIONA L METHOD
37	C13	19522	62.50	0.00	1220125.00	3.20	3904400.00	111	FOREST	Fe HIO	59.04333333 3333	CROSS SECTIONA L METHOD
38	C14	19469	62.50	0.00	1216812.50	3.20	3893800.00	111	FOREST	Fe HIO	58.22	CROSS SECTIONA L METHOD
39	C15	18402	62.50	0.00	1150125.00	3.20	3680400.00	111	FOREST	Fe HIO	61.24	CROSS SECTIONA L METHOD
40	C16	9954	62.50	0.00	622125.00	3.20	1990800.00	111	FOREST	Fe HIO	59.265	CROSS SECTIONA L METHOD
41	C17	12141	62.50	0.00	758812.50	3.20	2428200.00	111	FOREST	Fe HIO	59.01666666 6667	CROSS SECTIONA L METHOD
42	C18	12420	62.50	0.00	776250.00	3.20	2484000.00	111	FOREST	Fe HIO	58.34	CROSS SECTIONA L METHOD
43	C19	19360	62.50	0.00	1210000.00	3.20	3872000.00	111	FOREST	Fe HIO	57.95	CROSS SECTIONA L METHOD
44	C20	21518	62.50	0.00	1344875.00	3.20	4303600.00	111	FOREST	Fe HIO	58.36	CROSS SECTIONA

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56	C32	23229	62.50	0.00	1451812.50	3.20	4645800.00	111	FOREST	Fe HIO	58.03	CROSS SECTIONA L METHOD
57	C33	21891	62.50	0.00	1368187.50	3.20	4378200.00	111	FOREST	Fe HIO	58.02666666 6667	CROSS SECTIONA L METHOD
58	C34	21093	62.50	0.00	1318312.50	3.20	4218600.00	111	FOREST	Fe HIO	58.29333333 3333	CROSS SECTIONA L METHOD
59	C35	28650	62.50	0.00	1790625.00	3.20	5730000.00	111	FOREST	Fe HIO	58.71666666 6667	CROSS SECTIONA L METHOD
60	C36	20277	62.50	0.00	1267312.50	3.20	4055400.00	111	FOREST	Fe HIO	58.40333333 3333	CROSS SECTIONA L METHOD
61	C37	16168	62.50	0.00	1010500.00	3.20	3233600.00	111	FOREST	Fe HIO	58.47	CROSS SECTIONA L METHOD
62	C38	14151	62.50	0.00	884437.50	3.20	2830200.00	111	FOREST	Fe HIO	57.71333333 3333	CROSS SECTIONA L METHOD
63	C39	20199	62.50	0.00	1262437.50	3.20	4039800.00	111	FOREST	Fe HIO	57.49333333 3333	CROSS SECTIONA L METHOD
64	C40	17142	62.50	0.00	1071375.00	3.20	3428400.00	111	FOREST	Fe HIO	57.44333333 3333	CROSS SECTIONA L METHOD
65	C41	16493	62.50	0.00	1030812.50	3.20	3298600.00	111	FOREST	Fe HIO	58.07333333 3333	CROSS SECTIONA L METHOD
66	C42	19412	62.50	0.00	1213250.00	3.20	3882400.00	111	FOREST	Fe HIO	57.28333333 3333	CROSS SECTIONA L METHOD
67	C43	20191	62.50	0.00	1261937.50	3.20	4038200.00	111	FOREST	Fe HIO	57.14666666 6667	CROSS SECTIONA

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79	B2	2378	62.50	0.00	148625.00	2.90	431012.50	111	REVENUE	Fe HSIO	38.34	CROSS SECTIONA L METHOD
80	B3	144	62.50	0.00	9000.00	2.90	26100.00	111	REVENUE	Fe HSIO	40	CROSS SECTIONA L METHOD
81	B4	1228	62.50	0.00	76750.00	2.90	222575.00	111	REVENUE	Fe HSIO	38.2	CROSS SECTIONA L METHOD
82	B5	535	62.50	0.00	33437.50	2.90	96968.75	111	REVENUE	Fe HSIO	37.49	CROSS SECTIONA L METHOD
83	B6	239	62.50	0.00	14937.50	2.90	43318.75	111	REVENUE	Fe HSIO	36.25	CROSS SECTIONA L METHOD
84	B7	1138	62.50	0.00	71125.00	2.90	206262.50	111	REVENUE	Fe HSIO	38.66	CROSS SECTIONA L METHOD
85	B8	2379	62.50	0.00	148687.50	2.90	431193.75	111	REVENUE	Fe HSIO	40.77	CROSS SECTIONA L METHOD
86	B9	698	62.50	0.00	43625.00	2.90	126512.50	111	REVENUE	Fe HSIO	42.52	CROSS SECTIONA L METHOD
87	B11	3747	62.50	0.00	234187.50	2.90	679143.75	111	REVENUE	Fe HSIO	37.23	CROSS SECTIONA L METHOD
88	B12	645	62.50	0.00	40312.50	2.90	116906.25	111	REVENUE	Fe HSIO	37.92	CROSS SECTIONA L METHOD
89	B13	1222	62.50	0.00	76375.00	2.90	221487.50	111	REVENUE	Fe HSIO	38.49	CROSS SECTIONA L METHOD
90	B15	685	62.50	0.00	42812.50	2.90	124156.25	111	REVENUE	Fe HSIO	42.62	CROSS SECTIONA

102	C9	2297	62.50	0.00	143562.50	2.90	416331.25	111	FOREST	Fe HSIO	38.4	CROSS SECTIONA L METHOD
103	C10	352	62.50	0.00	22000.00	2.90	63800.00	111	FOREST	Fe HSIO	38.71	CROSS SECTIONA L METHOD
104	C11	4596	62.50	0.00	287250.00	2.90	833025.00	111	FOREST	Fe HSIO	36.43	CROSS SECTIONA L METHOD
105	C12	9433	62.50	0.00	589562.50	2.90	1709731.25	111	FOREST	Fe HSIO	37.17	CROSS SECTIONA L METHOD
106	C13	1135	62.50	0.00	70937.50	2.90	205718.75	111	FOREST	Fe HSIO	36.29	CROSS SECTIONA L METHOD
107	C14	1550	62.50	0.00	96875.00	2.90	280937.50	111	FOREST	Fe HSIO	38.23	CROSS SECTIONA L METHOD
108	C15	2691	62.50	0.00	168187.50	2.90	487743.75	111	FOREST	Fe HSIO	38.74	CROSS SECTIONA L METHOD
109	C16	4127	62.50	0.00	257937.50	2.90	748018.75	111	FOREST	Fe HSIO	38.81	CROSS SECTIONA L METHOD
110	C17	1285	62.50	0.00	80312.50	2.90	232906.25	111	FOREST	Fe HSIO	38.59	CROSS SECTIONA L METHOD
111	C18	515	62.50	0.00	32187.50	2.90	93343.75	111	FOREST	Fe HSIO	38.81	CROSS SECTIONA L METHOD
112	C19	4655	62.50	0.00	290937.50	2.90	843718.75	111	FOREST	Fe HSIO	39.99	CROSS SECTIONA L METHOD
113	C20	6103	62.50	0.00	381437.50	2.90	1106168.75	111	FOREST	Fe HSIO	39.31	CROSS SECTIONA

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125	C32	488	62.50	0.00	30500.00	2.90	88450.00	111	FOREST	Fe HSIO	41.21	CROSS SECTIONA L METHOD
126	C33	3327	62.50	0.00	207937.50	2.90	603018.75	111	FOREST	Fe HSIO	38.1	CROSS SECTIONA L METHOD
127	C34	3389	62.50	0.00	211812.50	2.90	614256.25	111	FOREST	Fe HSIO	36.62	CROSS SECTIONA L METHOD
128	C36	2687	62.50	0.00	167937.50	2.90	487018.75	111	FOREST	Fe HSIO	39.01	CROSS SECTIONA L METHOD
129	C37	1475	62.50	0.00	92187.50	2.90	267343.75	111	FOREST	Fe HSIO	37.53	CROSS SECTIONA L METHOD
130	C39	870	62.50	0.00	54375.00	2.90	157687.50	111	FOREST	Fe HSIO	36.72	CROSS SECTIONA L METHOD
131	C42	337	62.50	0.00	21062.50	2.90	61081.25	111	FOREST	Fe HSIO	39.52	CROSS SECTIONA L METHOD
132	C43	1295	62.50	0.00	80937.50	2.90	234718.75	111	FOREST	Fe HSIO	39.11	CROSS SECTIONA L METHOD
133	C44	5966	62.50	0.00	372875.00	2.90	1081337.50	111	FOREST	Fe HSIO	39.86	CROSS SECTIONA L METHOD
134	C45	3254	62.50	0.00	203375.00	2.90	589787.50	111	FOREST	Fe HSIO	40.52	CROSS SECTIONA L METHOD
135	C46	2407	62.50	0.00	150437.50	2.90	436268.75	111	FOREST	Fe HSIO	39.2	CROSS SECTIONA L METHOD
136	C47	12944	62.50	0.00	809000.00	2.90	2346100.00	111	FOREST	Fe HSIO	39.73	CROSS SECTIONA

148	C31	477	62.50	0.00	29812.50	3.20	95400.00	122	FOREST	Fe HIO	58.54666666 6667	CROSS SECTIONA L METHOD
149	C33	3971	62.50	0.00	248187.50	3.20	794200.00	122	FOREST	Fe HIO	58.02666666 6667	CROSS SECTIONA L METHOD
150	C38	1900	62.50	0.00	118750.00	3.20	380000.00	122	FOREST	Fe HIO	57.71333333 3333	CROSS SECTIONA L METHOD
151	C41	3224	62.50	0.00	201500.00	3.20	644800.00	122	FOREST	Fe HIO	58.07333333 3333	CROSS SECTIONA L METHOD
152	C44	386	62.50	0.00	24125.00	3.20	77200.00	122	FOREST	Fe HIO	57.97	CROSS SECTIONA L METHOD
153	C47	1126	62.50	0.00	70375.00	3.20	225200.00	122	FOREST	Fe HIO	57.28333333 3333	CROSS SECTIONA L METHOD
154	C48	2766.6	62.50	0.00	172912.50	3.20	553320.00	122	FOREST	Fe HIO	57.49666666 6667	CROSS SECTIONA L METHOD
155	C49	711	62.50	0.00	44437.50	3.20	142200.00	122	FOREST	Fe HIO	57.11666666 6667	CROSS SECTIONA L METHOD
156	C50	1009	62.50	0.00	63062.50	3.20	201800.00	122	FOREST	Fe HIO	56.46333333 3333	CROSS SECTIONA L METHOD
157	C52	973	62.50	0.00	60812.50	3.20	194600.00	122	FOREST	Fe HIO	55.81	CROSS SECTIONA L METHOD
158	C47	458	62.50	0.00	28625.00	2.90	83012.50	122	FOREST	Fe HSIO	40.43	CROSS SECTIONA L METHOD
159	C52	123	62.50	0.00	7687.50	2.90	22293.75	122	FOREST	Fe HSIO	38.01	CROSS SECTIONA

2A.2.5.3: Pitting

Number of Pits										
Nil										
SI.No.	Year	Land Type	Pit ID	Length of Pit (m)	Width of Pit (m)	Depth of Pit (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
							From	To	From	To
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

2A.2.5.4: Trenching

Number of Trenches										
Nil										

2A.2.5.4.1: SPACING

Min (m)	Max (m)	Avg (m)
Nil	Nil	Nil

2A.2.5.4.2: Area Covered Under Trenching

Co-ordinates

SI.No.	Year	Land Type	Trench ID	Length of Trench (m)	Width of Trench (m)	Depth of Trench(m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
							From	To	From	To
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

2A.2.5.5: Exploratory Drilling

2A.2.5.5.1: Core Drilling & Non-Core Drilling

SI.No.	Year	In Forest Area				In Non Forest Area				Total Borehole	Total Meter
		No. of Borehole	Total Mtr	Type Borehole	Grid Interval	No. of Borehole	Total Mtr	Type Borehole	Grid Interval		
1	2024-2025	8	640.00	Core	62.50	0	0.00	Nil	0.00	8	640.00
2	2025-2026	10	1190.00	Core	62.50	5	580.00	Core	62.50	15	1770.00
3	2025-2026	42	2960.00	Non Core	62.50	0	0.00	Nil	0.00	42	2960.00
4	2026-2027	15	1640.00	Core	62.50	0	0.00	Nil	0.00	15	1640.00
5	2026-2027	48	3670.00	Non Core	62.50	15	1020.00	Non Core	62.50	63	4690.00

2A.2.5.6: Exploratory Mining

SI.No.	Year	Pit ID	Length in meter	Width in meter	Depth in meter	Volume (m³)
1	Nil	Nil	Nil	Nil	Nil	Nil

2A.2.5.7: Sampling

SI.No.	Year	Type of Sample	Number of Samples Proposed	Area Covered(Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
					From	To	From	To
1	2024-2025	Drill Core	640	16.00	15:00:38.98	15:00:53.60	76:34:39.69	76:35:15.01
2	2025-2026	Drill Core	1770	122.97	15:00:26.45	15:00:59.05	76:34:40.53	76:36:17.38
3	2025-2026	Rock Chip	2960	12.97	15:00:28.11	15:00:36.04	76:35:45.50	76:36:05.13
4	2026-2027	Drill Core	1640	131.99	15:00:25.26	15:00:49.45	76:34:29.36	76:36:46.76
5	2026-2027	Rock Chip	4690	131.99	15:00:25.26	15:00:49.45	76:34:29.36	76:36:46.76

2A.2.5.8 Petrographic & Mineralgraphic Studies

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Sl.No.	Year	Type of Sample	Number of Samples Proposed
1	2025-2026	Mineral	6
2	2025-2026	Waste	4

Approved

Chapter 2B : Geology & Exploration UG : NA

Approved

Chapter 3: Mineral Beneficiation / Processing

Name of The Ore/Mineral	Iron Ore
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3.1: Mineralogy of the ROM ore/ Mineral

SI.No	Valuable Mineral Name	Approx. Mineral %	Gangue Mineral/s name	Approx. Mineral Gangue %
1	HEMATITE HIO	80.0000	Silica Alumina	20.0000
2	HEMATITE HSIO	60.0000	Silica Alumina	40.0000

3.2: Complete Chemical Analysis of the ROM Ore/Mineral

SI.No	Radical	Wt%
1	Fe HIO	61.5900
2	SiO2 HIO	1.8400
3	Al2O3 HIO	4.3400
4	P HIO	0.0600
5	LOI HSIO	4.6700
6	Fe HSIO	41.2600
7	SiO2 HSIO	18.7100
8	Al2O3 HSIO	14.0200
9	P HSIO	0.0630
10	LOI HSIO	7.4400

3.3: Crushing Section

3.3.1: Primary Crushing

SI.No	Type of Crusher	Make	Capacity of Crusher(tph)	Feed Size(mm)	Product Size(mm)
1	Jaw Crusher	PUZZOLANA	250	80.0000	-80.0000
2	Gyratory Crusher	FLSMIDTH	1800	-1000.0000	-200.0000

3.3.2: Secondary Crushing

SI.No	Type of Crusher	Make	Capacity of Crusher(tph)	Feed Size(mm)	Product Size(mm)
1	Cone Crusher	METSO	250	40.0000	-40.0000
2	Cone Crusher	URALMASH	750	100.0000	-40.0000

3.3.3: Tertiary Crushing

Not Applicable

3.4: Grinding Section

3.4.1: Dry Grinding

Not Applicable

3.4.2: Wet Grinding

Not Applicable

3.5: Dry Processing

3.5.1: Screening and Classification

SI.No	Type of Screen/Classifier	Stages	Make	Capacity(tph)	Aperture Size of Screen/Classifier (mm), if applicable	Feed Size(mm)	Product (mm)	Product Quality(if applicable)
1	Scalping Screen	Multiple	TRF	1800.0000	100.0000	-200.0000	-100.0000	Fe 35% to 66%
2	Primary Vibrating Screen	Multiple	TRF,METSO	1800.0000	40.0000	-100.0000	-40.0000	Fe 35% to 66%
3	Secondary Vibrating screens	Multiple	TRF,METSO	1050.0000	20.0000	-40.0000	-20.0000	Fe 35% to 66%
4	Tertiary Vibrating screens	Multiple	TRF,METSO	750.0000	10.0000	-40.0000	-10.0000	Fe 35% to 66%
5	GRIZZLY	Multiple	Puzzolona	600.0000	80.0000	-500.0000	-80.0000	Fe 35% to 66%
6	Primary Vibrating Screen	Multiple	Puzzolana	600.0000	40.0000	-80.0000	-40.0000	Fe 35% to 66%
7	Secondary Vibrating screens	Multiple	Puzzolana	600.0000	10.0000	-40.0000	-10.0000	Fe 35% to 66%

3.5.2: Other Operations

Not Applicable

3.5.3: Product Quality

Products	Wt%	In Tonnes	Size (Range) mm	Complete chemical analysis
Concentrate	100.0000	8628000.0000	-10 mm(fines) & 10-40 mm(lumps)	Fe 35% to 66%

Sub-grade	0.0000	0.0000	0	0
Rejects	0.0000	0.0000	0	0

3.6: Wet Processing

3.6.1: Scrubbing / Washing

SI.No	Type of Scrubbers / washers	Stages, if applicable	Make	Capacity(tph)	Feed Size(mm)	Product Size (mm)	Product Quality, if available	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	Not applicable	Not applicable	Not applicable	0.0000	0.0000	0.0000	0	0.0000	0.0000	0.0000

3.6.2: Screening and Classification

SI.No	Type of screen / classifiers	Stages, if applicable	Make	Capacity(tph)	Aperture Size of Screen/Classifier (mm), if applicable	Feed Size(mm)	Product Size (mm)	Product Quality, if available	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	Not applicable	Not applicable	Not applicable	0.0000	0.0000	0.0000	0.0000	0	0.0000	0.0000	0.0000

3.6.3: Gravity Separation

SI.No	Type of separators (jig, table, spiral, etc.)	Stages, if applicable	Make	Capacity(tph)	Feed Size(mm)	Product (Conc) (tph)	Product-Mid (tph), if available	Product-Tail (tph)	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	Not applicable	Not applicable	Not applicable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.6.4: Magnetic Separation

SI.No	Type of magnetic separators (magnetic intensity)	Stages, if applicable	Make	Capacity(tph)	Feed Size(mm)	Product-Mag (tph)	Product-Mid (tph), if available	Product non-Mag (tph)	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	Not applicable	Not applicable	Not applicable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.6.5: Flotation

SI.No	Type of flotation equipment (froth/ column)	Stages (rougher/ cleaner, etc), if applicable	Make	Capacity(tph)	Feed Size(mm)	Product-Float (tph)	Product non-Float (tph)	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	Not Applicable	Not Applicable	Not applicable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.6.6: Other Operations

SI.No	Type of equipment / operation	Stages, if applicable	Make	Capacity(tph)	Feed Size(mm)	Product-Conc (tph)	Product-Mid (tph), if available	Product-Tail (tph)	Water Requirement(l/h)	Fresh Water Requirement (l/h)	Recirculated Water (l/h)
1	Not applicable	Not applicable	Not applicable	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

3.6.7: Product Quality (wet processing)

Products	Wt%	In Tonnes	Size (Range) mm	Complete chemical analysis
Concentrate	0.0000	0.0000	0	0
Sub-grade	0.0000	0.0000	0	0
Rejects	0.0000	0.0000	0	0

3.7: Overall Product Quality (Dry cum Wet Processing)

Products	Wt%	In Tonnes	Size (Range) mm	Complete chemical analysis
Concentrate	100.0000	8628000.0000	-10 mm(fines) & 10-40 mm(lumps)	Fe 35% to 66%
Sub-grade	0.0000	0.0000	0	0
Rejects	0.0000	0.0000	0	0

3.8: Disposal Method for tailing/ rejects

a) Explain the disposal method for tailing or reject from processing plant with detail chemical / mineral analysis of tailing	Nil
b) Size and capacity of tailing pond, toxic effect of such tailings, process adopted to neutralise its effect (if any)	Nil
c) Any other data (if available)	Nil

3.9: Overall water requirement of mining and mineral processing

Indicate quantity, source of supply, disposal of water and extent of recycling and chemical analysis of water	WaterBalanceChart.pdf
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3.10: Flow sheets and charts

Material balance chart of mineral processing plant(s) (each stage of process)	Mineral_processing_Flowsheet.pdf
Attach flow sheet of beneficiation of plant(s)	Nil
Any other data (if applicable)	Nil

Chapter 4A: Mining Operations

4A.1.1: Existing Method of Mining			Mechanized	
Choose one or more	Combination of loaders and tippers	HEMM with deephole drilling	Combination of loaders and tippers	HEMM with deephole drilling
4A.1.2: Proposed Method of Mining			Mechanized	
Choose one or more	Combination of loaders and tippers	HEMM with deephole drilling	Combination of loaders and tippers	HEMM with deephole drilling
Reasons for Proposed Changes			NA	

4A.2: Operational Parameters

4A.2.1: Inventory of Existing Pits & Dumps

4A.2.1.1: Pits

SI.No.	Pit ID	Pit Status	Area Covered by Pit(Ha)	Pit Dimensions(L*W*D)
1	B block - PIT 1	Active	18.7700	822 x 228 x 76
2	B block -PIT 2	Active	12.5400	876 x 143 x 66
3	B block -PIT3	Active	12.7100	447 x 284 x 78
4	C block -PIT 1	Active	45.9400	1494 x 307 x 72
5	C block -PIT 2	Active	42.0500	997 x 422 x 42
6	C block -PIT 3	Active	7.8700	463 x 170 x 60

4A.2.1.2: Dumps and Stacks**4A.2.1.2.1: Dump Details**

SI.No.	Dump ID	Dump Status	Type of Dump	Total of Dump Quantity(t)	Area Covered by Dump(Ha)	Height(m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
							From	To	From	To
1	AD1	Active	Waste	7147413.00	15.49	119.00	15:00:35.36	15:00:47.96	76:35:36.54	76:36:04.03
2	AD2	Active	Waste	4289203.00	6.12	38.00	15:00:44.46	15:00:54.89	76:36:34.00	76:36:47.60
3	AD3	Active	Waste	380000.00	6.56	100.00	15:00:40.93	15:00:46.25	76:35:15.45	76:35:37.42

4A.2.1.2.2: Stack Details

SI.No.	Stack ID	Type of Stack	Total Stack of Quantity(t)	Area Covered by Stack(Ha)	Height(m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
						From	To	From	To
1	CMS-1	Stack for mineral	234000	7.74	1.5	15:00:24.01	15:00:34.54	76:35:02.31	76:35:19.32
2	CMS-2	Stack for mineral	199200	3	3	15:00:24.24	15:00:33.11	76:35:18.57	76:35:27.78
3	CMS-3	Stack for mineral	152000	5.14	1.3	15:00:32.78	15:00:40.65	76:35:22.50	76:35:37.94
4	CMS-4	Stack for mineral	131948	1.66	3	15:00:20.62	15:00:26.42	76:35:10.22	76:35:15.24
5	CMS-5	Stack for mineral	51200	1.26	2.1	15:00:19.79	15:00:22.28	76:35:13.65	76:35:21.60
6	CMS-6	Stack for mineral	24000	0.53	2	15:00:40.25	15:00:43.97	76:35:40.20	76:35:42.54
7	BMS-1	Stack for mineral	41000	0.67	5	15:00:42.16	15:00:38.81	76:36:49.32	76:36:51.00
8	BMS-2	Stack for mineral	63000	0.29	6	15:00:43.17	15:00:39.95	76:36:46.74	76:36:50.20

4A.2.1.3: Details of stabilised dumps

SI.No.	Dump ID	Number of Terraces	Average Height of Terraces(m)	Lenght of Toe Wall(m)	Lenght of Garland Drain(m)	Area Stablized(Ha)	Method of Stablization
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.2.2: Opencast Mining

4A.2.2.1: Bench Parameters

Pit ID	Year	Max Height of the Benches in Over Burden (m)	Min Width of the Benches in Over Burden (m)	Slope of the Bench in Over Burden (degree)	Max Height of the Benches in Mineral (m)	Minimum Width of the Benches in Mineral (m)	Slope of the Bench in Mineral (degree)	Overall Slope of Pit (degree)	Number of Benches in Top Soil	Number of Benches in Over Burden	Number of Benches in Mineral	Max Depth of Workings (m)	Depth of Water Table (mRL)	Max Slope Angle of Haul Roads (1xx in)
B Block Pit 1	2024-2025	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	3	3	36.00	820.00	16
B Block Pit 2	2024-2025	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	0	5	30.00	820.00	16
B Block Pit 3	2024-2025	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	0	3	12.00	820.00	16
C Block Pit-1	2024-2025	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	1	6	48.00	820.00	16
C Block Pit-2	2024-2025	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	3	4	36.00	820.00	16
C Block Pit-3	2024-2025	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	1	1	12.00	820.00	16
B Block Pit-1	2025-2026	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	2	3	30.00	820.00	16
B Block Pit-2	2025-2026	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	0	9	48.00	820.00	16
B Block Pit-3	2025-2026	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	1	1	36.00	820.00	16
C Block Pit-1	2025-2026	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	2	6	48.00	820.00	16
C Block	2025-2026	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	2	5	36.00	820.00	16

Pit-2														
C Block Pit-3	2025-2026	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	2	3	12.00	820.00	16
B Block Pit-1	2026-2027	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	3	3	42.00	820.00	16
B Block Pit-2	2026-2027	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	1	4	30.00	820.00	16
B Block Pit-3	2026-2027	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	1	3	42.00	820.00	16
C Block Pit-1	2026-2027	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	2	5	36.00	820.00	16
C Block Pit-2	2026-2027	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	1	5	42.00	820.00	16
C Block Pit-3	2026-2027	6.00	12.00	80.00	6.00	12.00	80.00	25.00	0	1	2	6.00	820.00	16

4A.2.2.2: Yearwise Opencast Development - I Continue

Sl.No.	Year	Pit ID	Bench	Direction	Bulk Density of Overburden (BD1) (ton/m ³)	Bulk Density of Mineral (BD2) (tonn/m ³)	Top Soil Volume (Length x Width x Height) (m ³)	Over Burden Volume (Length x Width x Height) (m ³)	Over Burden Quantity (t)	ROM Volume (Length x Width x Height) (m ³)	ROM Quantity (t)	Recovery	Mineral Reject (t)	Production Main (t)	Production Associated (t)	OB Ratio to Ore (m ³ /ton)
1	2024-2025	B Block Pit -1	1018-982	E	2.60	3.13	0.00	155875.00	405275.00	201437.60	630125.01	1.00000	0.00	630125.01	0.00	0.2474
2	2024-2025	B Block Pit-2	1042-1012	N	2.60	3.20	0.00	0.00	0.00	127125.00	406800.00	1.00000	0.00	406800.00	0.00	0.0000
3	2024-2025	B Block Pit-3	1000-988	N	2.60	3.20	0.00	32313.00	84013.80	27437.50	87800.00	1.00000	0.00	87800.00	Nil	0.3680
4	2024-2025	C Block Pit-1	1066-1018	N	2.60	3.19	0.00	0.00	0.00	305562.50	975587.73	1.00000	0.00	975587.73	Nil	0.0000

5	2024-2025	C Block Pit-2	1060-1024	N	2.60	3.19	0.00	207563.00	539663.80	633998.13	2024799.83	1.00000	0.00	2024799.83	0.00	0.1025
6	2024-2025	C Block Pit-3	1030-1018	N	2.60	3.11	0.00	34688.00	90188.80	101375.00	315344.17	1.00000	0.00	315344.17	0.00	0.1100
7	2025-2026	B Block Pit 1	1006-976	E	2.60	3.14	0.00	90313.00	234813.80	163937.50	513949.96	1.00000	0.00	513949.96	Nil	0.1757
8	2025-2026	B Block Pit -2	1060-1012	N	2.60	3.20	0.00	0.00	Nil	177750.00	568800.00	1.00000	0.00	568800.00	Nil	Nil
9	2025-2026	B Block Pit -3	1006-970	E	2.60	3.14	0.00	0.00	0.00	40875.20	128288.12	1.00000	0.00	128288.12	0.00	0.0000
10	2025-2026	C Block Pit-1-1	1066-1018	N	2.60	3.19	0.00	9875.00	25675.00	398125.00	1269275.05	1.00000	0.00	1269275.05	Nil	0.0078
11	2025-2026	C Block Pit--2	1054-1018	W	2.60	3.19	0.00	144938.00	376838.80	1585097.00	5062436.83	1.00000	0.00	5062436.83	0.00	0.0286
12	2025-2026	C Block Pit-3	1018-1006	N	2.60	3.11	0.00	67688.00	175988.80	348937.50	1085250.06	1.00000	0.00	1085250.06	0.00	0.0624
13	2026-2027	B Block Pit -1	1006-964	E	2.60	3.16	0.00	178875.00	465075.00	254562.50	804456.19	1.00000	0.00	804456.19	0.00	0.2224
14	2026-2027	B Block Pit -2	1036-1006	N	2.60	3.20	0.00	64313.00	167213.80	109187.50	349400.00	1.00000	0.00	349400.00	Nil	0.1841
15	2026-2027	B Block Pit -3	1006-964	N	2.60	3.20	0.00	2000.00	5200.00	14750.30	47200.96	1.00000	0.00	47200.96	Nil	0.0424
16	2026-2027	C Block Pit-1	1072-1036	N	2.60	3.19	0.00	54313.00	141213.80	1324640.00	4231905.56	1.00000	0.00	4231905.56	0.00	0.0128
17	2026-2027	C Block Pit-2	1054-1012	W	2.60	3.19	0.00	141438.00	367738.80	774875.00	2472831.47	1.00000	0.00	2472831.47	0.00	0.0572
18	2026-2027	C Block Pit-3	1018-1012	N	2.60	3.19	0.00	27500.00	71500.00	226750.00	722206.23	1.00000	0.00	722206.23	0.00	0.0381
Total									3150399.20		21696457.17		0.00	21696457.17	0.00	

4A.2.2.2 Yearwise Opencast Development - I End

SI.No.	Year	Pit ID	Total Topsoil Volume (m ³)	Total Over Burden Volume (m ³)	Total Over Burden Quantity (t)	Total ROM Volume (m ³)	Total ROM Quantity (t)
1	2024-2025	B Block Pit-1	0.00	155875.00	405275.00	201437.50	630125.00
2	2024-2025	B Block Pit-2	0.00	0.00	0.00	127125.00	406800.00
3	2024-2025	B Block Pit-3	0.00	32312.50	84012.50	27437.50	87800.00
4	2024-2025	C Block Pit-1	0.00	0.00	0.00	305562.50	975587.50
5	2024-2025	C Block Pit-2	0.00	207562.50	539662.50	633998.13	2024800.81
6	2024-2025	C Block Pit-3	0.00	34687.50	90187.50	101375.00	315343.75
7	2025-2026	B Block Pit-1	0.00	90312.50	234812.50	163937.50	513950.00
8	2025-2026	B Block Pit-2	0.00	0.00	0.00	177750.00	568800.00
9	2025-2026	B Block Pit-3	0.00	0.00	0.00	40875.00	128287.50
10	2025-2026	C Block Pit-1	0.00	9875.00	25675.00	398125.00	1269275.00
11	2025-2026	C Block Pit-2	0.00	144937.50	376837.50	1585096.88	5062437.19
12	2025-2026	C Block Pit-3	0.00	67687.50	175987.50	348937.50	1085250.00
13	2026-2027	B Block Pit-1	0.00	178875.00	465075.00	254562.50	804456.25
14	2026-2027	B Block Pit-2	0.00	64312.50	167212.50	109187.50	349400.00
15	2026-2027	B Block Pit-3	0.00	2000.00	5200.00	14750.00	47200.00
16	2026-2027	C Block Pit-1	0.00	54312.50	141212.50	1324640.00	4231906.00
17	2026-2027	C Block Pit-2	0.00	141437.50	367737.50	774875.00	2472831.25
18	2026-2027	C Block Pit-3	0.00	27500.00	71500.00	226750.00	722206.25
Total			0.00	1211687.50	3150387.50	6816422.51	21696456.50

4A.2.2.3: Transportation & Hauling Equipment

SI.No.	Type	Make	Capacity (m ³)	No. of Equipments
1	Tipper	ASHOK LEYLAND	16.00	15

2	Tipper	EICHER	16.00	63
3	Tipper	TATA	14.00	24
4	Tipper	BHARAT BENZ	14.00	8
5	Water Tanker	EICHER	10.00	1
6	Water Tanker	TATA	9.00	1
7	Water Tanker	TATA	12.00	4
8	Dumper	BEML	40.00	1
9	Water Tanker	BEML	28.00	1
10	Dumper	CAT	40.00	1

4A.3: Material Handling Summary

4A.3.1: Studies Undertaken

Title	Study Undertaken	Attachment (only pdf allowed)
Blast Vibration Study Report	Yes	Blast Monitoring data submitted by Ms CIMFR.pdf
Slope Stability Study Report	Yes	CIMFR 5 Th Visit June 2024.pdf
Recovery Study Report	No	Nil
Hydrological Study Report	No	BLANK.pdf
Mineral Beneficiation Study Report	No	Nil
Subsidence Study Report	No	Nil
Geotechnical Study Report	No	BLANK.pdf
Any Other Study Report	Yes	106(2)(b) KIOM.pdf
Bulk Density Study Report	Yes	15 Bulk density study.pdf

4A.3.2: Insitu Mining

SI.No.	Year	Waste Quantity(t)	ROM Quantity(t)	Total Handling (t)	ROM Quantity Saleable Mineral (t)	ROM Quantity Mineral Reject (t)	OB Ratio to Ore (Waste Quantity / ROM Quantity)	Grade Range (%)
1	2024-2025	1119138.00	4440457.00	5559595.00	4440457.00	0.00	0.25	35-66% Fe
2	2025-2026	813312.50	8628000.00	9441312.50	8628000.00	0.00	0.09	35-66% Fe
3	2026-2027	1217937.50	8628000.00	9845937.50	8628000.00	0.00	0.14	35-66% Fe
4	2024-2025	Nil	Nil	Nil	Nil	0.00	Nil	Nil
5	2024-2025	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Total	3150388.00	21696457.00	24846845.00	21696457.00	0.00		

4A.3.3: Dump workings

SI.No.	Year	Dump ID	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Area (m2)	Avg Height of Dump (m)	Volume (m³)	Total Dump Quantity (t)	Proposed Dump Handling Quantity (t) (A)	Proposed Recovery of Saleable Mineral (t)(B)	Proposed Waste Quantity (t) (A-B)	Grade Range (%)	Justification
			From	To	From	To									
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.3.4: Calculation Summary

Year	2024-2025	2025-2026	2026-2027	Total
(A) Total ROM quantity (t)	4440457.85	8628000.00	8628000.00	21696457.85
(B) Saleable ore from ROM (t)	4440457.85	8628000.00	8628000.00	21696457.85
(C) Proposed Dump Handling Quantity (t)	0.00	0.00	0.00	0.00
(D) Saleable Ore recovered from dump workings (t)	0.00	0.00	0.00	0.00

(E) Total Saleable Ore (t)(=B+D)	4440457.85	8628000.00	8628000.00	21696457.85
(F) Total Quantity Handled (t)(=A+C)	4440457.85	8628000.00	8628000.00	21696457.85

4A.4: Machine Calculation

4A.4.1: Machine Requirement Summary

Number of Average Working Days in One Year (A)	365
Number of Shifts per Day (B)	2
Material Handling Required per Day (t) ((D)=Largest of (Q1,Q5)/(A))	26975.17
Material to be Handled per Shift (t) ((E)=(D)/(B))	13487.5
Handling Required per Hour (t) ((F)=(E)/8 hours)	2247.83
Effective Shift Time	6 hrs 00 mins

4A.4.2: Shovel / Excavator Requirement

Effective Shift Time					6 hrs					00 mins				
SI.No.	Type	Bucket Capacity (m³)(A)	Bucket Fill Factor (B)	Swell Factor (C)	Tonnage Factor (t/m³) (D)	Machine Utilization Factor (%) (U)	Efficiency (%) (E)	Cycle time (sec) (F)	(G) TPH =TPH (G) =((3600 x A x B x C x D x E x U) / F)	Total Hours (H) =Number of working days x Number of shifts/day x Effective shift hours	Yearly handling by one Excavator (t) (I)=(G x H)	Maximum handling of the material by this machine during the block period (t) (J)	Number of excavator machines required (K) = (J / I)	Standby excavator (L)
1	Hydraulic	1.44	0.85	0.85	3.20	0.85	0.90	45	203.75	4380	892425.00	8628000.00	9.67	3
2	Hydraulic	1.44	0.85	0.85	2.60	0.85	0.90	45	165.55	4380	725109.00	1217937.5	1.68	1

												0		
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4A.4.3: Dumper Requirement

Effective Shift Time					6 hrs					00 mins				
SI.No.	Total Hour s=Number of working days (W)x Number of shifts/day x Effective shift hours (Machine Requireme nt Summary) (A)	Capacity of Dumpers (t) (B)	Speed of the dumper (KMPH) (i)	Lead Distance (KM) (ii)	Time taken to cover distance in minutes(iii) =(ii/i) x 60	Queuing, Loading Time at Shovel (min) (iv)	Queuing, Unloading Time during unloading (min) (v)	Total Time to complete one trip(vi) = (iii + iv + v)	No. of Trips / hr = (60 / vi)	Total trans portation per hour =(B X vii)	Yearly handling by one dumper (ix) = A x TPH	Maximum handling of the material by this machine during the block period (t) (x)	Number of dumpers will be (xi) =(x / ix)	Plus Standby dumper (xii)
1	4380	25.00	25.00	5.00	12.00	10.00	4.00	26.00	2	57	252945.00	8628000.00	34	12
2	4380	20.00	25.00	6.00	14.40	8.00	3.00	25.40	2	47	206736.00	1217937.50	7	3

4A.4.4: Drill Machine Requirement

Effective Shift Time					6 hrs					00 mins				
SI.No.	Type of Drill	Depth of H ole(includi ng Sub- grade Drilling	Spacing (m)	Burden (m)	Bulk Density of Waste (t/m³)	Bulk Density of Mineral (t/m³)	Yield per Hole (t)	Yield per Meter (t/m) = Yield per Hole	Annual Target Known (t)	Drilling Re quirement per Day (m) = (Annual	Drilling Re quirement per Shif t(m)	Rate of Drilling per Hours (m/hr) = Drilling Re	Required No. of drills (m/c) = Required rate of	Stand by Drill

		(m)						(t)/Depth of Hole(in cluding Sub-grade Drilling (m))		Target Known (t) / Yield per Meter (t/m)) / Number of Average Working Days in One Year (A)		quirement per Shif t(m)/Effecti ve Shift Time	drilling in meters per hr./ Actual rate of drilling in meters per hr of the machine deployed	
1	Hydraulic	6.50	3.00	3.00	2.60	3.20	187.20	28.80	8628000.00	820.77	410.38	68.40	5.00	1
2	Hydraulic	6.50	3.00	3.00	2.60	3.20	152.10	23.40	1217938.00	142.59	71.30	11.88	2.00	0

4A.4.5: Machine Deployment Details

4A.4.5.1: Excavator & Loading Equipment

Sl.No.	Type	Make	Capacity (m³)	No. of Equipments
1	TATA HITACHI-ZX470GI	TATA	2.50	1
2	TATA HITACHI-370LCH	TATA	1.60	1
3	VOLVO EC 380DL	VOLVO	1.60	1
4	KOBELCO-380	KOBELCO	1.60	7
5	LIUGONG -926	LIUGONG	1.30	1
6	SANY SY225C-10HD	SANY	1.30	2
7	LIUGONG -939E	LIUGONG	1.90	1
8	HYUNDAI R210	HYUNDAI	1.30	1
9	EXCAVATOR TATA EX 200	TATA	1.10	2
10	TATA HITACHI ZAXIS-210 LCH	TATA	1.10	1

11	EXCAVATOR CAT 320D	CAT	1.10	2
12	EXCAVATOR-SANY-215 C-9LC WITH BREAKER	SANY	1.10	1
13	SANY SY225C-10HD	SANY	1.30	1
14	JCB 205	JCB	1.10	2
15	KOMATSU PC-300LC	L&T	1.50	1
16	KOMATSU PC 210LC	KOMATSU	1.10	4
17	LIUGONG-926E XC	LIUGONG	2.10	1
18	HYDRAULIC	TATA HITACHI	4.30	1
19	WHEEL LOADER	HINDUSTAN	1.70	1
20	LG WHEEL LOADER 870	LIUGONG	3.80	1
21	LG WHEEL LOADER 856H	LIUGONG	2.00	1
22	SDLG WHEEL LOADER	VALVO	2.50	1
23	LG WHEEL LOADER 870H	LIUGONG	3.80	2
24	HM WHEEL LOADER	HINDUSTAN	1.70	1
25	WHEEL LOADER	SDLG	2.70	5
26	LG WHEEL LOADER KA 35B 8842	LIUGONG	2.00	3
27	LG WL NL 02Q 4988	LIUGONG	1.60	2
28	WHEEL LOADER	CAT	4.20	1

4A.4.5.2: Dozers Details

SI.No.	Type	Make	Capacity (hp)	No. of Equipments
1	TRACK DOZER	BEML	410.00	1

4A.4.5.3: Drilling Details

SI.No.	Type	Make	Capacity (m/hr)	Diameter of Hole(mm)
1	DRILLING MACHINE IRB-300	INDUS	20.00	110.00
2	DRILLING MACHINE D40 SH/XAV-216	ATLAS COPCO	20.00	110.00
3	DRILLING MACHINE LM-100/XAV-236	ATLAS COPCO	20.00	110.00
4	DRILLING MACHINE IRB-300	INDUS	20.00	110.00
5	DRILLING MACHINE IRB-300	INDUS	20.00	110.00
6	DRILLING MACHINE IRB-300	INDUS	20.00	110.00

4A.5 Blasting Requirement

4A.5.1: Blasting & Explosive Requirement in Waste/Development

SI.No.	Drill Pattern / Spacing of Holes (m)	Burden of Holes (m)	Number of Rows / Rings	Yield per Holes in Waste (m³)	Frequency of Blasting in a Week	Maximum Number of Holes Blasted in a Round	Charge per Hole (kg)	Charge per Round (kg)	Explosive Requirement Per Month in Development (kg)	Powder Factor in Development / Waste (t/kg)	Depth Of Hole
1	3.0	3.0	5	58.50	2	72	33.64	2422.08	19376.64	4.5	6.5

4A.5.2: Blasting & Explosive Requirement in Mineral / Ore

Type of Explosive										Type of Explosives used / to be Used									
Slurry Explosives										Aluminised Gelled Slurry Explosives (Large Diameter)									
SI.No.	Total ROM p roposed to be handled in CU	Total ROM p roposed to be handled in	Spacing of Holes (m)	Burden of Holes (m)	Numbe r of Rows	Yield per Holes in ROM Zone	Freque ncy of Blasting in a Week	Maxim um Numbe r of Holes Blasted	No of Holes R equired to be Blasted per	Charge per Hole (kg)	Charge per Round (kg)	Explosi ve Req uireme nt Per Month for	Powder Factor in Ore (t/kg)	Pop Shootin g (no of Boulder s)	Plaster Shootin g (no of Boulder s)	Use of Rockbr eaker	Capacit y	Second ary Blasting Require ments	Depth Of Hole

	M/annu m	CUM/ day				(m ³)		in a Round	Round			ROM Zone Blasting (kg)							
1	269625 0	7386.9 8	3.0	3.0	5	58.5	4	75	75	33.64	2523	40368	5.56	0	0	Yes	75	NIL	6.5

4A.6: Man Power Deployment

4A.6.1: Managerial

SI.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	1st Class	7	6	1	15	29
2	2nd Class Manager	2	2	1	1	6
3	Mining Engineer	1	1	1	0	3
4	Geologist	0	0	0	4	4
5	Mechanical Engineer	0	0	0	2	2
6	Electrical Engineer	1	1	Nil	2	4

4A.6.2: Supervisory

SI.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	Foreman	12	11	3	0	26
2	Mine-mate	11	10	1	0	22
3	Blaster	0	0	0	1	1
4	other	0	0	0	2	2

4A.6.3: Skilled Workers / Operators

SI.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	Technician	13	10	3	10	36
2	Operator	45	40	0	5	90
3	Dumper Operator	100	80	0	10	190
4	Drill Operator	5	5	0	5	15
5	Dozer/Grader Operator	4	3	0	3	10

4A.6.4: Semi-skilled Workers

SI.No.	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	16	12	0	17	45

4A.6.5: Unskilled Workers

SI.No.	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	45	40	15	40	140

4A.6.6: Others Specify

SI.No.	Particular	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General Shift	Total No. of Persons per day
1	other	12	10	3	8	33

4A.6.7: No of Persons Engaged Per Day

SI.No.	Number of Persons in Shift 1	Number of Persons in Shift 2	Number of Persons in Shift 3	Number of Persons in General	Total No. of Persons per day
--------	------------------------------	------------------------------	------------------------------	------------------------------	------------------------------

				Shift	
1	274	231	28	125	658
No of Shifts per Day ((A) = Machine Requirement Summary (B))			2		
Average Daily Employment per Shift ((B) = (Total Number of Person per Day) / (A))			329		
Material to be Handled per Shift ((C) = Machine Requirement Summary (E))			13487		

4A.6.8: Supervision

SI.No.	Particular	Qualification	Requirement / Proposed	In Position / Existing Strength	(Requirement / Proposed) - (In Position / Existing Strength) = (-) Shortage / (+) Excess	Remarks
1	Assistant Manager	B. Tech	16	16	0	FIRST CLASS & SECOND CLASS
2	Mine Foreman	B. Tech	26	26	0	FIRST CLASS & SECOND CLASS
3	Mining Mate	Secondary School	25	22	3	Will Be Recruited
4	Blaster	Blaster Certificate	1	1	0	Blaster Certificate
5	Others Specify	Secondary School	22	22	0	Mech & ELec Supervisors
6	Geologist	M Sc In Geology	4	4	0	Field Geologist
7	Others Specify	BE Mechanical	2	2	0	Mechanical Engr
8	Others Specify	BE Electrical	4	4	0	Electrical Engr

4A.7: Waste Management

4A.7.1: Existing Dump

SI.No.	Year	Dump Id	Type of Dump	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Dump Quantity (m³)	Existing Dump Location
						From	To	From	To		

1	2024-2025	AD1	Waste	2.42	20.00	15:00:45.21	15:00:49.65	76:35:43.98	76:35:52.57	242250.00	C Block
2	2024-2025	AD2	Waste	3.19	31.00	15:00:47.92	15:00:54.76	76:36:37.74	76:36:44.12	188188.00	B Block
3	2025-2026	AD1	Waste	3.42	30.00	15:00:41.91	15:00:49.45	76:35:44.06	76:35:52.52	222500.00	C Block
4	2025-2026	AD2	Waste	1.34	60.00	15:00:47.92	15:00:54.76	76:36:37.74	76:36:44.12	90313.00	B Block
5	2026-2027	AD1	Waste	4.39	50.00	15:00:41.34	15:00:49.55	76:35:44.06	76:35:52.57	414938.00	C Block
6	2026-2027	AD2	Waste	3.54	40.00	15:00:45.21	15:00:49.65	76:36:36.23	76:36:44.10	53500.00	B Block

4A.7.2: New Dump

SI.No.	Year	Dump Id	Type of Dump	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Dump Quantity (m³)	New Dump Location
						From	To	From	To		
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.7.3: Existing Stack

SI.No.	Year	Stack ID	Type of Stack	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Stack Quantity (m³)	Existing Stack Location
						From	To	From	To		
1	2024-2025	CMS-1	Stack for mineral	7.12	3.00	15:00:24.01	15:00:34.54	76:35:02.31	76:35:19.32	219600.00	C Block Pit-2
2	2024-2025	CMS-2	Stack for mineral	2.68	3.00	15:00:24.24	15:00:33.11	76:35:18.57	76:35:27.48	77400.00	C Block Pit-2
3	2024-2025	CMS-3	Stack for mineral	5.14	3.00	15:00:32.78	15:00:40.65	76:34:40.19	76:35:37.93	154200.00	C Block Pit-1
4	2024-2025	CMS-4	Stack for mineral	1.66	3.00	15:00:20.62	15:00:26.42	76:35:10.22	76:35:15.24	49800.00	C Block Pit-2
5	2024-2025	CMS-5	Stack for mineral	1.26	3.00	15:00:19.79	15:00:22.28	76:35:13.65	76:35:21.60	37800.00	C Block Pit-2
6	2025-2026	CMS-1	Stack for mineral	7.12	3.00	15:00:24.01	15:00:34.54	76:35:02.31	76:35:19.32	219600.00	C Block Pit-2
7	2025-2026	CMS-2	Stack for	2.68	3.00	15:00:24.24	15:00:33.11	76:35:18.57	76:35:27.48	77400.00	C Block Pit-2

			mineral								
8	2025-2026	CMS-3	Stack for mineral	5.14	3.00	15:00:32.78	15:00:40.65	76:34:40.19	76:35:37.93	154200.00	C Block Pit-1
9	2025-2026	CMS-4	Stack for mineral	1.66	3.00	15:00:20.62	15:00:26.42	76:35:10.22	76:35:15.24	49800.00	C Block Pit-2
10	2025-2026	CMS-5	Stack for mineral	1.26	3.00	15:00:19.79	15:00:22.28	76:35:13.65	76:35:21.60	37800.00	C Block Pit-2
11	2026-2027	CMS-1	Stack for mineral	7.12	3.00	15:00:24.01	15:00:34.54	76:35:02.31	76:35:19.32	219600.00	C Block Pit-2
12	2026-2027	CMS-2	Stack for mineral	2.68	3.00	15:00:24.24	15:00:33.11	76:35:18.57	76:35:27.48	77400.00	C Block Pit-2
13	2026-2027	CMS-3	Stack for mineral	5.14	3.00	15:00:32.78	15:00:40.65	76:34:40.19	76:35:37.93	154200.00	C Block Pit-1
14	2026-2027	CMS-4	Stack for mineral	1.66	3.00	15:00:20.62	15:00:26.42	76:35:10.22	76:35:15.24	49800.00	C Block Pit-2
15	2026-2027	CMS-5	Stack for mineral	1.26	3.00	15:00:19.79	15:00:22.28	76:35:13.65	76:35:21.60	37800.00	C Block Pit-2

4A.7.4: New Stack

Sl.No.	Year	Stack ID	Type of Stack	Proposed Area (ha)	Height (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Total Stack Quantity (m³)	New Stack Location
						From	To	From	To		
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.8: Mineral Waste Handling To Utilize As Minor Mineral

Sl.No.	Year	Dump ID	Type of Dump	Proposed Area (ha)	Quantity Handled (t)	Quantity Recovered (t)	Name Of Minor Mineral	Alternative Waste Utilization (m³)
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

4A.9: Use of Minerals

Sl.No.	Proposed Use Of Mineral	Name Of Mineral	Relevant Use Of Mineral	Physical Specifications	Chemical Specifications
1	Direct Selling	IRON ORE	Steel Making/Alloy making	-10 mm(fines) & 10-40 mm (lumps)	35 - 66% Fe

* Choose among these:

1. Captive use in own industry

2. Direct Selling

3. Selling Post-Beneficiation /Up-gradation

*Select more than one, if applicable

Approved

Chapter 4 B : Mining Operations UG : NA

Approved

Chapter 5: Sustainable Mining

5.1: Sustainable Mining and SDF Implementations in Compliance of Rule 35 of MCDR’2017

Sustainable Mining and SDF implementations during the plan period 2024-25(1/10/2024 to 31/03/2025) to 2026-27 will be carried out in accordance with Rule 35 of MCDR 2017 (Total 200 characters)	
Compliance of Vishakha Committee Guidelines for prevention of women harassment at workplace	Implemented

5.2: CSR INITIATIVES

5.2.1: 2024-2025

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
5.2.1.1: Area to be Developed for Recreation	
Area (Ha)	Area (Ha)
0.00	0.00
5.2.1.2: Area for Water Storage & Recharge Facility	
Area (Ha)	Area (Ha)
0.10	0.10
5.2.1.3: Efforts Made towards Housing for Local Communities	
Number of Houses	Number of Houses
0	0

5.2.1.4: Efforts Made towards Providing Transport to Local Communities

Number of Beneficiaries	Number of Beneficiaries
15000	15000

5.2.1.5: Efforts Made towards Providing Healthcare to Local Communities

Number of Beneficiaries	Number of Beneficiaries
21000	21000

5.2.1.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities

Number of Beneficiaries	Number of Beneficiaries
22300	22300

5.2.1.7: Efforts Made towards Skill Development Programs to Local Communities

Number of Beneficiaries	Number of Beneficiaries
300	300

5.2.1.8: Efforts Made to Promote Education & Knowledge Based Initiatives

Number of Beneficiaries	Number of Beneficiaries
165000	165000

5.2.1.9: Communication Facilities Provided to Local Communities

Number of Beneficiaries	Number of Beneficiaries
0	0

5.2.1.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities

Number of Beneficiaries	Number of Beneficiaries
55000	55000

5.2.1.11: Adoption of ODF

Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area:	Number of Beneficiaries
0	0	0

5.2.1.12: Awareness Program among Mine Workers for Swatchata	
Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held
2	2
5.2.1.13: Efforts for green energy	
Total energy consumption (KWh)	Green energy consumption (% of total)
1110200.00	100.00
5.2.1.14: Water & recycled use	
Total water consumption (KLD)	Water recycled (% of total)
800.00	0.00

5.2.2: 2025-2026

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
5.2.2.1: Area to be Developed for Recreation	
Area (Ha)	Area (Ha)
0.00	0.00
5.2.2.2: Area for Water Storage & Recharge Facility	
Area (Ha)	Area (Ha)
0.10	0.20
5.2.2.3: Efforts Made towards Housing for Local Communities	
Number of Houses	Number of Houses
0	0
5.2.2.4: Efforts Made towards Providing Transport to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
15000	30000

5.2.2.5: Efforts Made towards Providing Healthcare to Local Communities

Number of Beneficiaries	Number of Beneficiaries
21000	42000

5.2.2.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities

Number of Beneficiaries	Number of Beneficiaries
21000	43300

5.2.2.7: Efforts Made towards Skill Development Programs to Local Communities

Number of Beneficiaries	Number of Beneficiaries
0	2000

5.2.2.8: Efforts Made to Promote Education & Knowledge Based Initiatives

Number of Beneficiaries	Number of Beneficiaries
300	600

5.2.2.9: Communication Facilities Provided to Local Communities

Number of Beneficiaries	Number of Beneficiaries
0	0

5.2.2.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities

Number of Beneficiaries	Number of Beneficiaries
61000	116000

5.2.2.11: Adoption of ODF

Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area:	Number of Beneficiaries
0	0	0

5.2.2.12: Awareness Program among Mine Workers for Swatchata

Number of Swatchata Programmes Proposed	Number of Swatchata Programmes Held
2	4

5.2.2.13: Efforts for green energy	
Total energy consumption (KWh)	Green energy consumption (% of total)
1110200.00	100.00

5.2.2.14: Water & recycled use	
Total water consumption (KLD)	Water recycled (% of total)
800.00	0.00

5.2.3: 2026-2027

Details of Work Proposed during the Year / Measures Planned for the Affected Segment	Cumulative Work done / Measures Taken
5.2.3.1: Area to be Developed for Recreation	
Area (Ha)	Area (Ha)
0.00	0.00

5.2.3.2: Area for Water Storage & Recharge Facility	
Area (Ha)	Area (Ha)
0.10	0.30

5.2.3.3: Efforts Made towards Housing for Local Communities	
Number of Houses	Number of Houses
0	0

5.2.3.4: Efforts Made towards Providing Transport to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
15000	45000

5.2.3.5: Efforts Made towards Providing Healthcare to Local Communities	
Number of Beneficiaries	Number of Beneficiaries
20000	62000

5.2.3.6: Efforts Made towards Providing Hygiene & Sanitation to Local Communities		
Number of Beneficiaries		Number of Beneficiaries
20000		63300
5.2.3.7: Efforts Made towards Skill Development Programs to Local Communities		
Number of Beneficiaries		Number of Beneficiaries
300		900
5.2.3.8: Efforts Made to Promote Education & Knowledge Based Initiatives		
Number of Beneficiaries		Number of Beneficiaries
170000		505000
5.2.3.9: Communication Facilities Provided to Local Communities		
Number of Beneficiaries		Number of Beneficiaries
0		0
5.2.3.10: Any Other Steps Taken for Improving the Socio-Economic Standard of Local Communities		
Number of Beneficiaries		Number of Beneficiaries
61000		177000
5.2.3.11: Adoption of ODF		
Number of Toilets Built inside the Lease Area	Number of Toilets Built outside the Lease Area:	Number of Beneficiaries
0	0	0
5.2.3.12: Awareness Program among Mine Workers for Swatchata		
Number of Swatchata Programmes Proposed		Number of Swatchata Programmes Held
2		6
5.2.3.13: Efforts for green energy		
Total energy consumption (KWh)		Green energy consumption (% of total)
1110200.00		100.00

5.2.3.14: Water & recycled use	
Total water consumption (KLD)	Water recycled (% of total)
800.00	0.00

5.3: Rehabilitation & Resettlement of Affected Persons

Particular	2024-2025	2025-2026	2026-2027
Proposed Number of Project Affected Persons(PAP)	Nil	Nil	Nil
Proposed Number of Person for Alternate Arrangement for Sustainable Livelihood	Nil	Nil	Nil
Proposed Number of Person for Skill Training	Nil	Nil	Nil
Proposed Number of Person Likely to get Direct Employment	Nil	Nil	Nil
Proposed Number of Person Likely to get Indirect Employment	Nil	Nil	Nil
Proposed Project Affected Families Skilled and Absorbed	Nil	Nil	Nil
Proposed Number of Project Affected Families	Nil	Nil	Nil

Chapter 6: Progressive Mine Closure Plan

6.1: Status of Land

Total Area Degraded					Total mined out area Reclaimed and Rehabilitated			Other Areas Reclaimed and Rehabilitated	
Total area under excavation in the lease		Area under Dumps(in hect)	Area under utility services(in hect)	Area under Stack yards(in hect)	Mined out Area Reclaimed but not rehabilitated(in hect)	Mined outArea fully Rehabilitated from Reclaimed area(in hect)	Area under Water Reservoir considered Rehabilitated (in hect)	Stabililized Waste dump Rehabilitated (in hect)	Virgin area under Green Belt (in hect)
Area under mining operation	Mined Out area in the lease								
139.88	0.00	28.17	24.49	13.68	0.00	0.00	0.00	0.00	55.21

6.2: Progressive Reclamation and Rehabilitation Plan

6.2.1: Backfilling

Quantity of Waste / Fill Material Available at Site (m³)	Nil
Availability of Top Soil for Spreading (m³)	Nil
Proposed Spread Area (m²)	Nil

6.2.1.1: Year Wise Proposal

Sl.No	Year	Pit ID	Area (m²)	Top RL	Bottom RL	Estimated Expenditure (₹ INR)
1	Nil	Nil	Nil	Nil	Nil	Nil

6.2.2: Water Reservoir

Average Rainfall of The Area (mm)	800.00
Proposed Area under Water Storage	Nil

6.2.2.1: Preparations For Ground Water Recharging

6.2.2.1.1: Drilling Holes	
Year	Proposed no of Holes to be Drilled
2024-2025	Nil
2025-2026	Nil
2026-2027	Nil
6.2.2.1.2:Preparation of Course Gravel Bed	
Year	Proposed Area of Bed (LxW)
2024-2025	Nil
2025-2026	Nil
2026-2027	Nil
Please specify, if others	
Nil	

6.2.2.2: Protective measures (Please specify running meter)

6.2.2.2.1: Fencing					
Year	Proposed Fencing Length (m)	Latitude(dd:mm:ss.ss)		Longitude(dd:mm:ss.ss)	
		From	To	From	To
2024-2025	Nil	Nil	Nil	Nil	Nil
2025-2026	Nil	Nil	Nil	Nil	Nil
2026-2027	Nil	Nil	Nil	Nil	Nil

6.2.2.2.2: Retaining Wall					
Year	Proposed Wall Length (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
		From	To	From	To
2024-2025	92	15:00:50.28	15:00:50.86	76:35:43.25	76:35:46.27
2025-2026	400	15:00:47.88	15:00:50.64	76:35:46.26	76:35:53.63
2026-2027	1074	15:00:46.30	15:00:53.09	76:35:22.19	76:35:43.24

6.2.2.2.3: Garland Drains					
Year	Proposed Bund Length (m)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)	
		From	To	From	To
2024-2025	95	15:00:50.37	15:00:50.76	76:35:43.21	76:35:46.32
2025-2026	400	15:00:47.98	15:00:50.72	76:35:46.30	76:35:53.68
2026-2027	1224	15:00:46.30	15:00:53.09	76:35:22.19	76:35:43.24

6.2.3: Green Belt Development

6.2.3.1: Cumulative work done (upto end of previous block of five years)

SI.No	Total Expenditure Incurred up to Last Year (INR)	Area Covered (Ha)	Number of Plants	Survival Rate (%)
1	92535200.00	43.97	234600	85.00

6.2.3.2: Year Wise Proposal

SI.No	Year	Green Belt Location (s)	Area Proposed to be Covered (Ha)	Number of Plants Proposed	Expected Survival Rate (%)	Estimated Expenditure (₹ INR)
1	2024-2025	C BLOCK NON MINERALISED AREA	1.41	3525	85	1410000

2	2025-2026	C BLOCK NON MINERALISED AREA75M SZALONG APPROACH ROADS	2.37	7925	85	3170000
3	2026-2027	C BLOCK NON MINERALISED AREA75M SZALONG APPROACH ROADS	2.41	7185	85	2874000

6.2.4: Use of Shallow Pits

6.2.4.1: Cumulative Work Done (upto end of previous block of five years)

SI.No	Pit ID	Work Done	Area covered (m²)	Total Expenditure Incurred (up to last five year block) (₹ INR)
1	Nil	Nil	Nil	Nil

6.2.4.2: Year Wise Proposal

SI.No	Year	Pit ID	Total Area(Ha)	Area Proposed for Crops (Ha)	Suitable Crops	Area Proposed for Grass (Ha)	Total Proposed Expenditure (₹ INR)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Remarks
								From	To	From	To	
1	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil

6.2.5: Pisciculture

6.2.5.1: Total Expenditure incurred as on Date (INR)	Nil
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6.2.5.2: Cumulative work done as on Date

SI.No	Pit ID	Area (m²)	Expenditure (₹ INR)
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1	Nil	Nil	Nil
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6.2.5.3: Year Wise Proposal

SI.No	Year	Pit ID	Area (m ²)	Estimated Expenditure (₹ INR)
1	Nil	Nil	Nil	Nil

6.2.5.4: Source of Water for Pisciculture	Nil
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6.2.5.5: Whether the quality of water has been assessed & found to be suitable for Pisciculture	Yes
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6.2.6: Recreational Facility

6.2.6.1: Total Expenditure Incurred (up to last five year block) (INR)	2500000.00
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6.2.6.2: Cumulative work done as on Date

SI.No	Pit ID	Area (m ²)	Expenditure (₹ INR)
1	KIOM	4000.00	2500000.00

6.2.6.3: Year Wise Proposal

SI.No	Year	Type of Recreational Facility	Area Covered (Ha)	Latitude (dd:mm:ss.ss)		Longitude (dd:mm:ss.ss)		Estimated Expenditure (INR)
				From	To	From	To	
1	2024-2025	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2	2025-2026	Nil	Nil	Nil	Nil	Nil	Nil	Nil
3	2026-2027	Nil	Nil	Nil	Nil	Nil	Nil	Nil

6.2.7: Dump Area Stabilization & Development

Sl.No	Year	Dump ID	No of Terraces	Average Height of Terraces (m)	Length of Toe Wall (m)	Length of Garland Drain (m)	Area Stabilized (Ha)	Method of Stabilization	Estimated Expenditure (₹ INR)	No of Check Dams
1	2024-2025	AD 1	2	10.00	92.00	95.00	0.00	Retaining wall, garland drain, plantation etc	602825.00	Nil
2	2025-2026	AD 1	1	10.00	250.00	250.00	0.00	Retaining wall, garland drain, plantation etc	1636750.00	Nil
3	2025-2026	AD 2	1	10.00	150.00	150.00	0.00	Retaining wall, garland drain, plantation etc	982050.00	Nil
4	2026-2027	AD 2	1	10.00	310.00	450.00	0.00	Retaining wall, garland drain, plantation etc	2052950.00	Nil
5	2026-2027	AD 3	0	10.00	764.00	774.00	0.00	Retaining wall, garland drain, plantation etc	5003578.00	Nil

6.2.8: Other Form of Reclaiming the Area

6.2.8.1: Cumulative work done as on Date

Sl.No	Total Expenditure incurred as on Date (INR)	Work Done
1	Nil	Nil

6.2.8.2: Year Wise Proposal

Sl.No	Year	Work Proposals	Estimated Expenditure (INR)
1	2024-2025	0	Nil
2	2025-2026	Plantation along approach road to AD1, AD3	800000.00
3	2026-2027	Plantation along approach road to AD1, AD3	464000.00

6.2.9: TopSoil Management

6.2.9.1: Cumulative Work Done as on Date

SI.No	Top Soil Generated (m³)	Top Soil Utilized (m³)	Topsoil Stored (m³)	Total expenditure incurred as on date (₹)
1	2000.00	2000.00	Nil	1500000.00

6.2.9.2: Year Wise Proposal

SI.No	Year	Topsoil Generated (m³) (A)	Topsoil Utilized (m³) (B)	Topsoil Stored (m³) (A-B)	Estimated Expenditure (INR)
1	2024-2025	Nil	Nil	Nil	Nil
2	2025-2026	Nil	Nil	Nil	Nil
3	2026-2027	Nil	Nil	Nil	Nil

6.2.10: Tailings Dam Management

SI.No	Year	Yearly generation of Tailing (m³) (A)	Total capacity of Tailing Pond (m³)	Measures Proposed for Periodic Desilting	Yearly Utilization of Tailing (m³) (B)	Disposal of Tailing to Tailing Pond (m³) (A-B)	Tailing Dam Design	Structural Stability Studies
1	2024-2025	Nil	Nil	Nil	Nil	Nil	Nil	Nil
2	2025-2026	Nil	Nil	Nil	Nil	Nil	Nil	Nil
3	2026-2027	Nil	Nil	Nil	Nil	Nil	Nil	Nil

6.2.11: Land Use of Lease Area at the Expiry of Lease Period

Total Area Degraded	Non Degraded area	Total mined out area Reclaimed and Rehabilitated	Other Areas Reclaimed and Rehabilitated
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Mined Out area in the lease	Area under Dumps(in hect)	Area under the Tailing Dam	Area under utility services(in hect)	Area undistur bed/virgin	Mined out Area Reclaimed but not rehabilitated(i n hect)	Mined outArea fully Rehabilitated from Reclaimed area(in hect)	Area under Water Reservoir considered Rehabilitated (in hect)	Stabilized Waste dump Rehabilitated (in hect)	Virgin area under Green Belt (in hect)	Rehabilitated Area under utility services(in hect)	Rehabilitated Area under Tailing dam (in hect)
208.87	44.31	0.00	43.80	162.31	0.00	67.35	0.00	44.31	166.49	43.80	0.00

Approved

Chapter 7: Financial Assurance/ Performance Surety (AREA PUT TO USE)

2024-2025

Consolidated View of Financial Assurance

SI.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	139.88	0.95	140.83
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	28.17	2.08	30.25
4	Mineral Storage	13.68	-0.29	13.39
5	Infrastructure (Workshop, Administrative Building etc.)	6.87	0.00	6.87
6	Roads	17.62	0.00	17.62
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	0.00	0.00	0.00
11	Township Area	0.00	0.00	0.00
12	Others to specify	8.15	0.00	8.15
	Total	214.37	2.74	217.11

2025-2026

Consolidated View of Financial Assurance

SI.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	140.83	1.06	141.89
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	30.25	0.00	30.25
4	Mineral Storage	13.39	-0.65	12.74
5	Infrastructure (Workshop, Administrative Building etc.)	6.87	0.00	6.87
6	Roads	17.62	-0.01	17.61
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	0.00	0.00	0.00
11	Township Area	0.00	0.00	0.00
12	Others to specify	8.15	0.00	8.15
	Total	217.11	0.40	217.51

2026-2027

Consolidated View of Financial Assurance

SI.No	Particular	Area put to use at Start of Year (ha) (A)	Additional Requirement (ha) (B)	Total (ha) (C = A + B)
1	Area under Mining	141.89	3.43	145.32
2	Topsoil stacking	0.00	0.00	0.00
3	Overburden/Waste Dumping	30.25	0.00	30.25
4	Mineral Storage	12.74	-0.01	12.73
5	Infrastructure (Workshop, Administrative Building etc.)	6.87	0.00	6.87

6	Roads	17.61	-0.60	17.01
7	Railway	0.00	0.00	0.00
8	Tailing Pond	0.00	0.00	0.00
9	Effluent Treatment Plant	0.00	0.00	0.00
10	Mineral Separation Plant	0.00	0.00	0.00
11	Township Area	0.00	0.00	0.00
12	Others to specify	8.15	0.00	8.15
	Total	217.51	2.82	220.33
Financial Assurance				

Financial Assurance

Category A Mining Lease

Total Area Proposed to be put to use in hect(Year 1 to 5)	Amount of Bank Gurantee (Lac INR)	Valid till (dd/mm/yyyy)	Upload copy of Bank Gurantee as attachment
220.33	1101.65	31/03/2027	BG_compressed.pdf

Category B Mining Lease

SI.No	Total Area Proposed to be put to use in hect(Year 1 to 5)	Amount of Bank Gurantee (Lac INR)	Valid till (dd/mm/yyyy)	Upload copy of Bank Gurantee as attachment
1	Nil	Nil	Nil	Nil

Chapter 8: Review of Previous Proposals (Not applicable for fresh grant)

8.1: General

8.1.1: Lease Area Utilization

Sl. No.	Type of land use (in ha)	Area at the beginning of the proposal period	Area proposed under activity	Actual Area utilized in the proposal period	Deviation	Reasons for deviation
1	Mining	99.87	129.08	139.88	10.80	Due to space Constraints for stockpiling during FY 2022-23 additional area has been broken in during fy 2023-24
2	Mineral storage	9.46	11.46	13.68	2.22	The produced ore could not be moved due to Road blockages (maintenance for 3 months), hence stocking was more.
3	Mineral Beneficiation plant	0.00	0.00	0.00	0	NA
4	Township	0.00	0.00	0.00	0	NA
5	Tailing Pond	0.00	0.00	0.00	0	NA
6	Railways	0.00	0.00	0.00	0	NA
7	Roads	13.36	13.36	17.62	4.26	New roads made for approaching Pit 2 and Pit 3 of C block
8	Infrastructure (Workshop, administrative building etc.)	6.87	6.87	6.87	0	NA

9	OB/waste dump	11.51	19.57	28.17	8.6	Area of dump material which was slided down in the valey and roads are also taken account of.
10	Top soil preservation	0.00	0.00	0.00	0	NA
11	Others	14.02	14.02	8.15	0	Safety zone for non FC area is not considered now.
12	Total area put to use	185.72	194.36	214.37	20.01	Land use for 2024-25 is only till 30/09/2024
13	Excavated area reclaimed	0.00	0.00	0.00	0	NA
14	Waste dump area reclaimed	0.00	0.00	0.00	0	NA
15	Undisturbed Area	484.71	445.44	425.43	-25.57	NA
	Total	639.80	639.80	639.80	0	

8.1.2: SDF and CSR Expenditures

Activity	Proposals		Achievement	Deviation	Reasons for deviation
Total expenditure incurred for implementation of SDF at mine level including - Environment Protection - CSR & other welfare activities in peripheral area (Explanation: Expenditure is not over and above the statutory levies imposed by the Government; However, THIS EXCLUDES CONTRIBUTION TO DMF & NMET and is over and above the statutory levies imposed by the Government.)	10% of Royalty (a)	Total Expenditure for SDF implementation (b)			

CSR (Corporate Social Responsibility) spending at the mine level in Proposal Period (as per Companies Act, 2013 or otherwise)	868179284.00	543322319.00	2495760046.00	1952437727.00	In the year 22-23 SPV was considered in total expenditure
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8.2: Technical Details

8.2.1: Exploration

Particulars	Proposals			Achievement			Deviation			Reasons for deviation
	Boreholes	Pits	Trenchs	Boreholes	Pits	Trenchs	Boreholes	Pits	Trenchs	
Number of Boreholes/ Pits/ Trenches	49	0	0	24	Nil	Nil	-25	Nil	Nil	As per the violation issued on 17.12.2024, the revised boreholes proposed for exploration have been incorporated in this mining plan
Boreholes Meterage (If Boreholes selected in first row) (m)	3000			2342			-658			As per the violation issued on 17.12.2024, the revised boreholes proposed for exploration have been incorporated in this mining plan
Grid	100			100			0			NA
G Axis upgradation during Proposal	17.40			15.72			-1.68			As per the violation issued on 17.12.2024,

Period as per guidelines of MEMC Rule 2015)				the revised boreholes proposed for exploration have been incorporated in this mining plan
Area converted under G1 from G2/G3	14.5	14.5	0	Nil

8.2.2: Mine Development (Opencast/ Underground/ Both/ Dump Mining)

Particulars	Proposals	Actual	Deviation	Reasons for deviation
8.2.2.1: Generation of Ore/Waste While Development				
Ore	30000000	17388912	-12611088	For FY 2024-25 till 30.09.2024, 4187542.94 tons of ore and 533394.06 tons pf waste is achieved
Waste	3300000	261411567	-1684438.66	For FY 2024-25 till 30.09.2024, 4187542.94 tons of ore and 533394.06 tons pf waste is achieved
Generated Waste while ROM recovery	0	0	0	NA
Dumping Site (For Surface)	AD-1 & AD-2	AD-1 & AD-2	Nil	As per the violation issued on 17.12.2024, the revised proposals for dumping have been incorporated into this mining plan
Removal of waste/ over burden in cubic meters	2153745	1025965	-1127780	For FY 2024-25 till 30.09.2024, 4187542.94 tons of ore and 533394.06 tons pf waste is achieved
8.2.2.2: Excavation				
Lateral extent	4341	4467	126	As per the violation issued on 17.12.2024, the revised proposals for working have been incorporated in this mining plan

Vertical extent	964	976	6	Extents is within limits
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8.2.3: Mining operation: Dump Mining

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Handling of Material	Nil	Nil	Nil	Nil
Waste Generated post recovery	Nil	Nil	Nil	Nil
Dumping site for waste	Nil	Nil	Nil	Nil

8.2.4: Zero Waste Mining

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Alternative use / Disposal of Waste Generated (excluding top soil)	Nil	Nil	Nil	Nil

8.2.5: Backfilling

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Site (Co-ordinates)	Nil	Nil	Nil	Nil
Area	Nil	Nil	Nil	Nil
Depth	Nil	Nil	Nil	Nil
Volume Backfilled (CuM)	Nil	Nil	Nil	Nil
Backfilled Area available for Reclamation and Rehabilitation	Nil	Nil	Nil	Nil
Backfilled Area Reclaimed and Rehabilitated	Nil	Nil	Nil	Nil
Balance Backfilled Area	Nil	Nil	Nil	Nil

8.2.6: Production of Mineral(s)

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
8.2.6.1: ROM				
Opencast	30000000.0000	17388912.0000	-12611088.0000	For FY 2024-25 till 30.09.2024, 4187542.94 tons of ore and 533394.06 tons pf waste is achieved
8.2.6.2: Cleaned Ore				
Opencast	30000000.0000	17388912.0000	-12611088.0000	For FY 2024-25 till 30.09.2024, 4187542.94 tons of ore and 533394.06 tons pf waste is achieved
Dump Mining	0.0000	0.0000	0.0000	Nil
Recovery from Mineral Rejects or Tailings	0.0000	0.0000	0.0000	Nil
Total	30000000.0000	17388912.0000	-12611088.0000	For FY 2024-25 till 30.09.2024, 4187542.94 tons of ore and 533394.06 tons pf waste is achieved

8.2.7: Handling of Mineral Rejects/ Sub-Grade

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
Generation of mineral rejects				
Opencast	0	353456	353456	Nil
Dump Mining	0	0	0	Nil
Other recovery	0	0	0	Nil
Stacking of mineral rejects/ sub-grade mineral (Dump Id)	0	0	0	Nil
Blending of mineral reject / sub-grade	0	348956	348956	Nil

8.2.8: Environment Compliances

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
8.2.8.1: Top soil				
Generation	Nil	Nil	Nil	Nil
Utilization	Nil	Nil	Nil	Nil
Stacking (Dump Id)	Nil	Nil	Nil	Nil
Reclamation	Nil	Nil	Nil	Nil
Rehabilitation	Nil	Nil	Nil	Nil
8.2.8.2: Afforestation (Dumps/Benches/Backfilled Area etc.)				
2022 - 2023	Nil	Nil	Nil	Nil
2023 - 2024	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil
8.2.8.3: Afforestation (Green Belt)				
2022 - 2023	2.18	5	2.82	Achieved more than proposal
2023 - 2024	2.072	0.74	-1.332	As per the violation issued on 17.12.2024, the revised plantation proposals have been incorporated in this mining plan
Nil	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil
Nil	Nil	Nil	Nil	Nil
Construction of check dams	0	0	Nil	Nil
Construction of Garland Drain (in meter)	76	0	-76	As per the violation issued on 17.12.2024, the revised proposals have been incorporated in this mining plan

Construction of Retaining Walls (in meter)	76	0	-76	As per the violation issued on 17.12.2024, the revised proposals have been incorporated in this mining plan
8.2.8.4: Tailings				
Generation	Nil	Nil	Nil	Nil
Utilization	Nil	Nil	Nil	Nil
Disposal	Nil	Nil	Nil	Nil

8.3: Socio-Economic Review

8.3.1: Rehabilitation & Resettlement for Project Affected People

Particulars	Proposals	Achievement	Deviation	Reasons for deviation
No. of Project Affected People (PAP)	Nil	Nil	Nil	Nil
%age of PAP for whom alternate arrangements made for sustained livelihood	Nil	Nil	Nil	Nil
% of project affected families given employment	Nil	Nil	Nil	Nil
% of project affected families who have been skilled by the lessee and absorbed (% of total employment given to affected families)	Nil	Nil	Nil	Nil

8.3.2 : Grievance Redressal

Grievances Received	2022 - 2023	2023 - 2024	Nil	Nil	Nil
	Nil	Nil			
Grievances Redressed	Nil	Nil			

8.3.3: Welfare and socio-economic development programs for local communities

Particulars	2022 - 2023	2023 - 2024	Nil	Nil	Nil
8.3.3.1 Support for Drinking Water & Agriculture					
No. of Water Storage Tanks constructed	nil	Nil	Nil	Nil	Nil
Drinking Water Facilities provided (Bore wells/ Pumps etc.)	8	2	Nil	Nil	Nil
Irrigation Support provided (Canals/ Pumps etc.)	Nil	Nil	Nil	Nil	Nil
No. of Water tanks De-silted	Nil	Nil	Nil	Nil	Nil
Water Treatment facilities provided (A/NA)	2	Nil	Nil	Nil	Nil
Amount of Water treated (in kL) (if selected A in above)	900	Nil	Nil	Nil	Nil
8.3.3.2 Support to Health & Medical Services					
No. of persons identified from Occupational health diseases	Nil	Nil	Nil	Nil	Nil
No. of Health Camps/ Medicine Camps Organized	8	8	Nil	Nil	Nil
8.3.3.3 Support to Skill development & Education					
Vocational Training Provided/ Support Provided					
No. of employees undergone Vocational training	8	4	0	0	0
No. of other persons undergone Vocational training	137	495	0	0	0
Number of Literacy & Education Camps held/ Supported	Nil	Nil	Nil	Nil	Nil
8.3.3.4 Support to Transportation Services & Infrastructure					

Expenditure on Transportation Services & Infrastructure	62.27 Lakh	45.90 Lakh	Nil	Nil	Nil
Road development (m) in the peripheral area (not lease area)	Nil	250	Nil	Nil	Nil
No. of Public transport support provided (Ambulance/Buses/ School Vans etc)	1	2	Nil	Nil	Nil
8.3.3.5 Swatchata Programs: Creating/providing sanitation and healthy condition in and around the mine area					
Adoption of ODF within mining lease area					
No. of Toilets built in the Lease Area	Nil	Nil	Nil	Nil	Nil
Adoption of ODF in nearby villages					
No. Of Toilets built in the villages	Nil	Nil	Nil	Nil	Nil
Provision for greenage recreational facility (Within Lease Area/ Outside)					
Recreational Area Type (Picnic Spot/ tracks/Park Etc)	Nil	Nil	Nil	Nil	Nil
Area covered (For within Lease Area only)	Nil	Nil	Nil	Nil	Nil
Awareness program among Mine workers for Swatchata					
No. of Swatchhta Programmes held	2	2	Nil	Nil	Nil

Chapter 9 : Impact Assessment (NA)

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Chapter 10: Annexures

1. Upload Document

1.1 Upload Document

Sl.No.	Title	Is Upload	Document (only pdf allowed)
1	Letter of Intent /Letter of lease grant	Nil	Annexure-I- Lease Grant.PDF
2	Copy of lease deed executed	Nil	2_LeaseDeeds.pdf
3	Copy of Declaration of Owner/Nominated Owner in case of Company/partnership firm	Nil	3_Owner_declaration.pdf
4	ID & Address Proof of Owner/ Nominated Owner	Nil	4_Address_proof.pdf
5	Copy of Environment and Forest Clearence, Consent to Establish, Consent to Operate	Nil	5_EC_FC_CFE_CFO_CEC.pdf
6	Copy of Registration of Company (RoC)/Partnership firm (Registration) & Deed	Nil	Company_registration.pdf
7	Consent letter for Qualified Person	Nil	7_QP_CONSENT.pdf
8	Experience & Qualification Details of Qualified Person	Nil	8_QP_Experience.pdf
9	Certificate from QP	Nil	9_QP_cerificate_signed.pdf
10	Copy of Bank Guarantee	Nil	10_BankGurantee.pdf
11	Copy of Performance Surety	Nil	Nil
12	Copy of MDPA (as applicable)	Nil	Nil
13	Exploration details	Nil	13_GRAPHIC_LOGS_Form_J.pdf
14	Copy of feasibility Report	Nil	14_FeasibilityReport.pdf
15	Copy of Study reports conducted as per Para	Nil	15_Ann_as_per_Para_4-3-1.pdf

	4.3.1		
16	Chemical and Mineralogical analysis report	Nil	16_CHEMICAL_+Mineralogical.pdf
17	Any other Report or Certification as required in the submitted Document.	Nil	17_AR+SDF+BD_reports.pdf
18	Copy of Scale relaxation approval granted(if applicable)	Yes	18_Scale_relaxation_letter.pdf
19	Mineral processing flowsheet with stage wise recovery	Nil	19_Mineral_processing_Flowsheet.pdf
20	Any Other (1)	Yes	20_ProdSheet+ProposedBH.pdf
21	Any Other (2)	Yes	21_RR_ProgressRep+IBMApproval+ARs+Route-wiseEvacuation+PMCP_rep.pdf

Chapter 11: Plates (OC)

1. Upload Document

1.1 Upload Document

S.N.	Title	Is Upload	Document
1	Lease sketch plan;	Nil	PLATE - 1 LEASE CADASTRAL PLAN.pdf
2	Surface Plan (.KMZ format)(Georeferenced); A statutory plan as per MCDR, 2017. The Plan should be submitted showing different color codes for:(1) Active Pits & Excavation area(2) Excavated area reclaimed & rehabilitated (3)Active dumps (4) Stabilized & rehabilitated dump area , (5) Green belt (6) Mineral Stacks (7) Utilities such as plant, buildings etc (8) Lease boundary along with other details.)	Nil	1-SURFACE_PLAN.KMZ
3	Surface Geological Plan of the lease (.KMZ format)(Georeferenced); The Plan should be submitted showing different color codes for : (1) Lithological/Geological Occurance (2) Area under G1,G2,G3 & G4 (3) Active pits & Excavation area (4) Dump Area (5) Mineral Stacks (6) Lease boundary along with other details.)	Nil	2-SURFACE GEOLOGICAL PLAN.kmz
4	Surface Geological sections (in Pdf format); Geological sections with different color coding depicting all the features shown in Surface Geological Plan.)	Nil	3 GEO SEC MERGED.pdf
5	Five year Production and Development plan (.KMZ format)(Georeferenced); The Plan should be submitted showing different color	Nil	3-PRODUCTION & DEVELOPMENT PLAN.kmz

	coding for: (1) Active Pit and Excavation area , (2) Year wise excavation proposal for year I to V (3) Active dump and yearwise dump proposal for year I to V (4) Year wise Dump working proposal for year I to V (6) Lease boundary (with reference to chapter 4) along with other details.)		
6	Five year Production and Development sections (in pdf format); Year wise excavation and dumping proposals with different color coding depicting all the features as shown in the Five year Production and development plan.)	Nil	5-P&D_SEC_MERGED.pdf
7	Progressive Mine Closure Plan (.KMZ format)(Georeferenced); The Plan should be submitted showing different color coding for : (1) Yearwise excavated area Reclaimed & rehabilitated for year I to V (2) Year wise dump area to be stabilized and dump area to be rehabilitatd for year I to V (3) Year wise Green area proposed from year I to V.(4) Any other reclamation and rehabilitation measures proposed.(5) Lease boundary (with reference to chapter 6) along with other details.)	Nil	4-PROGRESSIVE_MINE_CLOSURE_PLAN.kmz
8	Progressive mine Closure sections (in pdf format); Year wise Progressive mine clouser sections showing all the yearwise reclamation, rehabilitaion proposals as depicted in the Progessive mine clouser plan.)	Nil	6A-PMCP_SEC.pdf
9	Conceptual Plan (.KMZ format)(Georeferenced); The Plan should depict the staus of lease area as envisaged at the end of life of Mine showing all the details. Status of land use shall be depicted by different color coding.)	Nil	7-CONCEPTUAL_PLAN.kmz
10	Conceptual Sections (pdf) format;	Nil	11-CONCEPTUAL_SECTION.pdf
11	Geo referenced Cadastral Plan; Duly certified by the State Government)	Nil	PLATE - 10 GEO REFERENCED CADASTRAL_PLAN.pdf

12	Financial Assurance Plan (KMZ);	Nil	5-FINANCIAL AREA ASSURANCE PLAN .kmz
13	Environmental Plan (.KMZ format)(Georeferenced); As per MCDR, 2017 indicating all the details.)	Nil	6-ENVIRONMENT PLAN.kmz
14	Any other plan/section as deemed necessary by approving authority;	Yes	Key+Surface+Geo+Prod+PMCP+FAAP.pdf
15	Five Year Production and Development sections (in pdf format);	Yes	Env+Conce+R&R Plans.pdf
16	LEVEL WISE SLICE PLAN; LEVEL WISE SLICE PLAN (PDF FORMAT IN VISIBLE SCALE))	Yes	KIOM SLICE PLANS.pdf
17	Zipped shp file of the lease boundary; Upload a single zipped file of the lease boundary)	Nil	MINES LEASE BOUNDARY.zip
18	Zipped shp file of the boundary pillars; Enter a single zipped file of the boundary pillars.)	Nil	BOUNDARY PILLERES.zip
19	Zipped shp file of the Production and Development plan for respective proposal year - 2024-2025; Upload a zipped shape file indicating a separate production and development plan for each respective proposal year)	Nil	24-25 WORKING.zip
20	Zipped shp file of the Production and Development plan for respective proposal year - 2025-2026; Upload a zipped shape file indicating a separate production and development plan for each respective proposal year)	Nil	25-26 WORKING.zip
21	Zipped shp file of the Production and Development plan for respective proposal year - 2026-2027; Upload a zipped shape file indicating a separate production and development plan for each respective proposal year)	Nil	26-27 WORKING.zip
22	Zipped shp file of the Dump plan for	Nil	24-25 dump.zip

	respective proposal year - 2024-2025; Upload zipped file of the dump plan separately for each respective proposal year)		
23	Zipped shp file of the Dump plan for respective proposal year - 2025-2026; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	25-26_dump.zip
24	Zipped shp file of the Dump plan for respective proposal year - 2026-2027; Upload zipped file of the dump plan separately for each respective proposal year)	Nil	26-27_dump.zip

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Chapter 11 : Plates(UG) : NA

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