

Scrutiny Comments on Draft Review of Mining Plan including Progressive Mine Closing Plan i.r.o. John Mine (ML No. 2294) over an extent of 42.13Ha of Shri R. Praveen Chandra located in Megalahally, Chowdenahally, Tanigenahalli villages, Chitradurga and Holalkere Taluk, Chitradurga District of Karnataka State

General

- i) The format in which the document submitted should be in new format as per the FAQ on format of Mining Plans issued vide CCOM Circular 1/2021. Accordingly, all the information provided may be suitably incorporated also missing information may be provided as per the new format.
- ii) No cells in the excel format may be left blank, either 'no proposal', 'nil', or 'not applicable' may be furnished.
- iii) If any relevant information pertaining to the 'calculation' or 'supporting information' or 'clarification' may be provided in foot note of the respective table/para.
- iv) Wherever additional information or supporting document given in Annexure, Annexure no. may be specified in respective paras

Chapter 1: GENERAL INFORMATION

Para 1.1.1: Initial/subsequent Lease grant details: The lease deeds from initial grant as mentioned in the para may be enclosed as Annexure and Annexure no. may be provided in this para for reference

Para 1.1.2: Mining Plan Submission Criteria Details: Since this document is a RMP for the plan period 01.04.2022 to 03.02.2027, reasons for modification mentioned in this para may be deleted.

Para 1.3.1: Approval of earlier mining plan & its subsequent review: All IBM approval letters for Mining plan to be enclosed as Annexure and reference to be given under the Para.

Para 1.3.2 to 1.3.3 may be mentioned as 'not applicable' and 'nil' may be mentioned in the details

Para 1.3.5.1: Location of Boundary Pillars: In lease Boundary pillar co-ordinates, in seconds only one decimal is mentioned, as per the approved DGPS plan, there are about 4 to 5 decimals, all the boundary pillar co-ordinates should match with the approved DGPS surveyed Plan.

Para 1.3.6: Owner/Nominated Owner Details: Copy of PAN card of the owner may also be enclosed as Annexure

Para 1.3.7: Qualified Person Details as per M(OAHCEM)CR, 2016: (i) PAN card of the QP's may also be enclosed as Annexure. (ii) Consent letter issued from lessee are not

digitally signed, (iii) Declaration certificate of the QP's not enclosed, the same may be enclosed with digital signature.

Para 1.3.4: Statutory Compliances: (i) The details of permissible Annual Production as per CEC approval letter along with CEC approval letter number and date. may be given as para Para 1.3.4.5 and supporting document may be provided as Annexure (ii) Lessee has obtained common boundary working permission the details may be given as section 1.3.4.6. The related documents may be attached as Annexures and reference to be given in this para.

Chapter 2: GEOLOGY & EXPLORATION

Para 2.1.3: Regional Geology: Regional Serigraphy of the area may be provided as an Annexure and the Annexure number may be referred in the Text or this may also be provided by inserting table in word file.

Para 2.1.4.3: (i) Nature of occurrence of other lithologies along with foot wall and hanging wall of iron ore formation may be described. (ii) Different type of iron ore available in the lease, their field occurrence, petrological characteristics and percentage of incidence of each type of ore may be given. Lumps and fines percentage in the iron ore (ROM) may also need to be provided.

Para 2.1.4.5: Extent of Weathering/ Alteration: Along with the information provided, lateral extent & vertical extent of weathering may also be provided.

Para 2.1.4.7: Extent of Mineralization: Vertical extent of iron ore mineralization is not provided, the same may be provided.

Para 2.2.1.1: Geological Mapping: (i) The scale of the geological mapping given as 1:430555 the same may be corrected as 1:2000. (ii) The unit of area is not provided, the same may be mentioned as Hectare.

Para 2.2.1: Summary of The Previous Exploration: If particular exploration activity in sub-para 2.2.1.2 to 2.2.1.14 is not carried out. The same may be specified as 'Not carried out'. This comment will also be applicable in all the relevant para's.

Para 2.2.1.9: Sampling: In the foot note of the table, Type of sample may be given as 'RC drill samples'.

Para 2.2.1.10: Chemical Analysis: (i) In the Minerals column, the details may be provided as iron ore. (ii) only chemical analysis certificate of the lab is enclosed, there is no information of depth, lithology etc. The bore hole samples information may be provided in CSV/excel file which shall normally include Five files namely (a) collar file, (b) survey file and (c) Geology log file, (d) Assay file and (e) RQD File. The file formats are given below. All the bore hole data may be submitted in the below given format. If particular data is not available, the same may be mentioned as 'Not carried out'.

(a) Collar file

Hole_id*	Latitude	Longitude	Altitude	Max_depth	Hole_path (linear/angular)	Date of drilling

(b) Survey file for drill holes

Hole_id	Depth	Dip	Azimuth

(c) Assay file

			radicals analysed				
			(specify name of radical as an example given below)				
Hole_id	Depth_from	Depth_to	Fe	SiO ₂	Al ₂ O ₃	LOI	P

(d) Geology file

Hole_id	Depth_from	Depth_to	Lithological Description

(e) Rock Quality Designation (RQD) File

Hole_id	Depth_from	Depth_to	RQD%

**Hole ID should tally with the surface geological plan as available in the latest approved mining plan*

Along with the above information, the log-sheet of each borehole as per FORM-J format under Rule 48(1) of MCDR 2017 recording particulars in respect of each borehole, duly certified by the Geologist may also to be enclosed Annexure.

Para 2.2.2.12: Beneficiation Test: Amenability study mentioned, the study report may be enclosed as Annexure and Annexure no. may be provided in this para.

Para 2.2.2.13: Bulk Density: (i) Annexure no. of Bulk Density Study report may be referred in the text. (ii) The information given in the no. of samples and Mineral column may be reviewed and corrected. (iii) The average bulk density considered for Hematitic iron ore, HSIO and OB in the Year-wise Opencast Development in Mining Chapter may also be specified in the foot note of the Bulk density data table.

Para 2.2.2.14: Area Covered under Exploration: It is mentioned that, the entire Potentially Mineralized area (20.74 Ha) has been explored under G1 level. However, from the chemical analysis data provided for the drill holes it is observed that, most of the bore holes are ended in mineralized zone i.e. Fe greater than 50%. As per the revised threshold value notification dated 25th April 2018, Threshold value of Hematitic silicious Iron ore is 35% Fe (min). Lessee has to reassess the Resources upto the revised threshold value limit. Further as per MEMC Rule, 2015, G1 level i.e. Detailed exploration means three dimensional delineation of ore body through drilling, systematic sampling. Hence, this para may be reviewed and suitably modified and

further exploratory core drilling upto discontinuous of ore body may be proposed in para 2.2.6 (Future Exploration Proposal).

Para 2.2.3: Ore Body Geometry & Grade: The grade of the silicious ore mentioned as minimum 25% and maximum 35%, however the average grade of silicious ore specified as 39%. The average grade should be between minimum and maximum value, hence same may be reviewed and suitably corrected.

Para 2.2.4.1: Methodology: (i) Geological cross sections are prepared perpendicular to Northing at an interval of every 50 meters is mentioned, however cross sections are drawn perpendicular to the stike of the ore body. Hence, the same may be corrected as Geological cross sections are prepared perpendicular to general strike of the ore body at an interval of every 50 meters. (ii) The mine being a highly mechanized mine with annual production of 1.399 million metric tonnes, the Reserve/Resource estimation may also be calculated in Slice plan method and details may be added in Annexure along with the slice plans in list of plates and the variance calculated between sectional method and slice plan method may be provided in this para.

Para 2.2.4.2: Resource Calculation for Iron Ore: In para 2.2.3, the average grade of the iron ore mentioned as 56.8%, however, in calculation of Resources, Average grade of Iron ore mentioned as 45%. The same may be corrected as 'Fe 56.8%' or 'Fe 45% and above'.

Para 2.2.4.2.1: Resource Calculation for Hematitic Siliceous Iron Ore: The grade of HSIO mentioned as +35% to - 45%, the same may be corrected as 35% to -45%.

Para 2.2.5.2: Threshold value & Cut off Parameters: As per the revised threshold value notification Fe% of HSIO is 35% (min) and Fe % of Hematatic iron ore is 45% min. Hence, the details of grade given may be corrected; accordingly, Reserve/Resources calculation may also be modified suitably. Further wherever Fe grade +45% written may be corrected as 'Fe 45% and above'.

Para 2.2.5.5: Cost & Revenue Factors: Summery of the cost and Revenue factors as per feasibility may be provided. Annexure no. of feasibility report may be referred in this para.

Para 2.2.5.10: Calculation of Reserves: (i) Reserve/Resources are calculated as on 9/10/2021. All reserves and resources should be calculated as on 01/04/2021 i.e. as per the Annual Return 2020-21. Accordingly all calculations may be re-calculated and modifications may be made in respective plans and sections. (ii) The quantity of ore produced till submission of the document may be provided at foot note of the Table.

Para 2.2.6.1: Geological Mapping: The scale of map may be corrected.

Para 2.2.6.5: Exploratory Drilling: There is no exploratory drilling proposal for the Plan period. As per the comment at para 2.2.2.14, exploratory core drilling may be proposed

and carried out upto non-mineralized zone, suitably the drilling proposals may be given in this para.

Para 2.2.6.7: Sampling: Tentative Number of samples going to be generated during the course of exploration may be proposed.

Para 2.2.6.8: Petrographic & Mineragraphic Studies: Pilot Scale Beneficiation studies of weathered BHQ's has been proposed in this para. This information may be given in new para 2.2.6.9 Beneficiation study and Total no. of samples proposed be collected for beneficiation test, year of study and other details may be provided. If any processing methodology or flow chart is prepared, the same may be provided as Annexure.

Chapter 3: MINERAL BENEFICIATION / PROCESSING

Para 3.1: Mineralogy of the ROM ore/ Mineral: The details of High Siliceous Iron Ore may also be provided.

Para 3.3: Crushing Section: (i) In the flow sheet of crushing & screening it is mentioned as 300TPH, however, in the text, crusher specification it is mentioned as 250TPH. The same may be reviewed and corrected suitably. (ii) Flow sheet Annexure no. may be referred in this para for ready reference

Para 3.3.2: Secondary Crushing: In this para product size is given as -30 mm, however in flow chart, the product size after secondary crushing given as -20 mm. The same may be reviewed and corrected suitably.

Para 3.9: Overall water requirement of mining and mineral processing: The chemical analysis of water may also be enclosed as Annexure.

Para 3.10: Flow sheets and charts: The Annexure no. mentioned in the beneficiation section may be deleted, the same may be provided in others by mentioning Flow chart of Crushing & Screening Process.

Chapter 4: MINING OPERATIONS

Para 4.2.1.1: PITS: The information of pit dimension is not matching with the given pit area. The same may be suitably rectified.

Para 4.2.1.2.1: Dump Details: (i) 20,60,745 tonnes quantity given in stabilized dump in as area of 4.5 Ha with 12-13 meter height. The given quantity w.r.t. height and area is very high, the same may be reviewed and suitably corrected.

Para 4.2.1.2.2: Stack Details: (i) In the Type of Stack of mineral, details of Lumps stack and fines stack may also be provided and foot note of the table. (ii) There is one old silicious stock present at north eastern part of the lease, details of the stock is not given in this para. The same may be provided. (iii) The Stack ID given in the Text, the same should be maintained in all the plans/sections.

Para 4.2.2.1: Bench Parameters: (i) Depth of water table may be specified. (ii) Year-wise Production and Development Sections are given in one plan (Plate-5F), the same may be provided in separate for each Year.

Para 4.2.2.2: Year-wise Opencast Development: (i) Details of Bench not provided, the same may be provided. Year-wise, Bench-wise Bottom RL may be given at foot note of the Table; (ii) In the Production Plan, Iron ore production quantity and HSIO production quantity shown separately, however in the text, the production quantity is combined, the Production of HSIO may be shown in Associated Mineral column. (iii) Recovery of Mineral shown as 100%, however, certain quantity of Mineral Reject shown, the same may be deleted. (iv) The proposed ROM quantity should include the Production of Main Mineral, Mineral Reject & Production Associated (HSIO), total quantity of ROM should not exceed the Capping fixed by CEC. (v) For the Year 2023-24, in the Production & Development Plan between Section line AA' to EE' Temporary Mineral Stock shown also Development has also been proposed in the same area, the same may be reviewed and suitably corrected. (vi) In the foot note of the table, anticipated Lumps to Fines Ratio is said to be around 25:75 during first two years of Plan period and about 20: 80 during last three years of Plan period has been proposed. However, from the Annual Returns 2020-21 it is observed that, the lumps percentage from the Mine is about 29%, the reported lumps is processed ore i.e. the product is after 2 stage of crushing. Hence, the proposed lumps percentage should be atleast 30 to 35%, accordingly the given information may be suitably modified. (vii) Ore to OB ratio calculated in tons may be specified in foot note of the table. (viii) Bulk Density of Mineral considered for HSIO may also be specified. (ix) All the mining and allied activities proposed within the lease area as per the statutory norms. No Mining or allied activity proposed in 7.5m safety zone, except plantation. The common boundary working proposal should be restricted to mineralized zone.

Para 4.3: Material Handling Summary: (i) Hydrological Study Report – The Annexure no. referred is not matching with the enclosure, the same may be corrected. (ii) Mineral Beneficiation Study Report – Proposed Mineral Beneficiation Study may also be mentioned in this para. (iii) Slope Stability Study Report given in Annexure contains only for Mine pit/benches, the slope stability report for dumps may also be provided.

Para 4.3.2: INSITU MINING: This para may also be reviewed and suitably corrected as per the comments given in para 4.2.2.2.

Para 4.4.1: Machine Requirement Summary: Effective Shift Time given as 10hrs 30 minutes, the shift hours is very long, the same may be reduced to 08hrs. Accordingly all calculation in the relevant paras may be modified.

Para 4.4.2: Shovel / Excavator Requirement: Proposed Bucket Fill Factor is very high, the same may be reviewed, bucket fill factor should be maximum 0.9. The same may be modified and accordingly excavators proposed nos. also has to be modified.

Para 4.5 Details of Blasting and Explosive Requirement in Mineral/ore/waste Development as per the new format may be provided.

Para 4.6.5: This shift-wise details given below the unskilled –workers table is not in the format. The same may be deleted.

Para 4.6.7: Supervision: No details provided in this para, as per the format all the details may be provided.

Para 4.7.3: Existing Stack: Range and Average grade of the existing Mineral Reject stack may be provided at the foot note of the table.

Para 4.7.4: New Stack: Temporary stack proposed during the year 2023-24 to 2026-27, all the details as per the format may be provided in this Para. In the foot note Temporary Mineral Stack may mentioned along with Dump ID.

Para 4.9: Use of Minerals: Captive use in Own Industry is proposed, however the lease is Non-Captive. Hence the same may be rectified.

CHAPTER-5: SUSTAINABLE MINING

Para 5.1: (i) It should be specifically mentioned under this Para “ Sustainable Mining and SDF implementations during the plan period will be carried out in accordance with Rule 35 of MCDR 2017”. (ii) Compliance of Vishakha Committee Guidelines for prevention of women harassment at workplace: The company guidelines for prevention of women harassment at place may be given and supporting document may be enclosed as Annexure.

Para 5.2: Number of villages, Number of Beneficiaries, Number of toilets etc range is given, the same may be modified and exact figure should be provided. This will be applicable to all the sections under this para no.

Para 5.2.1.2: Area for Water Storage & Recharge Facility: Area details may be mentioned as ‘Nil’. This will be applicable to all the 05 years proposals.

Chapter 6: PROGRESSIVE MINE CLOSURE PLAN

Para 6.1: Status of Land: Degraded land under Mining Operation given as 20.74Ha, however in Annual Returns mentioned as 20.75 Ha, the same may be reviewed and corrected suitably.

Para 6.2.2.1: Preparations for Ground Water Recharging: Roof top Rain water Harvesting techniques is developed has been mentioned in this para. Supporting document may be enclosed as Annexure.

Para 6.2.2.2.2: Retaining Wall: Only northing UTM co-ordinates given from column and easting co-ordinate given at to columns, both easting and northing UTM co-ordinates

may be provided from (beginning point) and to (ending point) of Retaining wall. This comment is also applicable to Garland Drains proposal para 6.2.2.2.3.

Para 6.2.3.2: Year Wise Proposal: There is no proposal for plantation for the entire plan period, which is not acceptable. Year-wise plantation should be proposed and details may be provided as per the format. In addition, gap filling plantation may also be proposed where the survival rate of plants is poor.

Para 6.2.4.1: Cumulative work done (upto end of previous block of five years) in use of shallow pits mentioned as Not applicable. The same may be mentioned as 'No Proposals during the previous block of five year, Not applicable.

Para 6.2.5: PISCICULTURE: If 'No Proposals', the same may be mentioned and in details 'nil' may be mentioned. This will be applicable to all sub-paras under this para.

Para 6.2.7: Dump Area Stabilization & Development: Details of Length of Toe Wall, Length of garland drain, no. of check dams and estimated expenditure are not provided. The same may be provided as per the format.

Para 6.2.8.1: Cumulative work done and expenditure details as on Date in Other form of Reclaiming the Area has not been given. The same may be given as per the format.

Para 6.2.8.2: Year Wise Proposal: In the Year-wise Proposals it is mentioned as 'No Proposal' and estimated expenditure given as 'Nil'. This para may be reviewed, details of plantation, Retaining wall, Garland drain etc may be given along with estimated expenditure.

Para 6.2.9.1: Details Cumulative Work Done as on Date for Topsoil management is not given, the same may be provided.

Para 6.2.11 Land Use of Lease Area at the Expiry of Lease Period (Conceptual Stage): This para may be reviewed. Area under utility (Plant, Building etc) at the conceptual stage should be 'Nil'. All the area degraded land should be in broken-up area. The area (Degraded + Non-Degraded/virgin + rehabilitated area) details given should match with the Total lease area.

Chapter 7: FINANCIAL ASSURANCE/ PERFORMANCE SURETY

(i) The proposed land use area may be reviewed w.r.t. Annual Return 2020-21 submitted and suitably modified. (ii) The proposed land use area for the Year 2026-27 (upto 03.02.2027) may be reviewed as per comments in para 6.2.11 and suitably corrected. (iii) The Bank guarantee amount should be re-calculated as per rule 27(1) amended MCDR 2021. i.e. 5 lakh Rupees per hectare for the area propose to be utilized and updated Bank Guarantee may be submitted.

Chapter 8: REVIEW OF PREVIOUS PROPOSALS

Para 8.2.2: Mine Development (Opencast/ Underground/ Both/ Dump: (i) There is a deviation of about -3.22 in waste removal, reasons for deviation may be specified. (ii) Period of Review of Mine Development may be given at the foot note of the table.

Para 8.2.2.1: Generation of Ore/Waste (i) While Development: Dumping Site proposed grid location and actual grid location (UTM-Coordinates) may be provided. (ii) Quantity of Generated Waste while ROM recovery is not given, the same may be mentioned.

Para 8.2.7: Handling of Mineral Rejects/ Sub-Grade: In the Previous approved document, there is a proposal for use of Mineral Reject by blending with high-grade ore and sold through e-auction. However, no-proposal mentioned in this para and details are not given. This para may be reviewed all the relevant details may be provided as per the format.

Para 8.2.8.3: Afforestation (Green Belt): (i) There is a proposal for plantation of 0.44 Ha area (1100 Plants) during the Year 2020-21 and 1.16Ha area (2800 plants) during the year 2021-22, however no-proposal mentioned this para for the said years. The same may be reviewed all the details may be provided. (ii) Reasons for deviation on construction Graland drain and Retaining wall may be provided.

Plates - Hardcopy

1. Lease Boundary Pillar Co-ordinates may be provided in all the Plans.
2. Plate No. 2 – Surface Plan : Contour line information is not provided in the plan. 5 to 10m interval contour lines may be provided.
3. Plate No. 3- Surface Geological Plan: (i) Strike and Dip details of the iron ore body and other lithologies are not provided, the same should be provided. (ii) In the Index, for iron ore +45% Fe given the same may be corrected as Iron ore Fe 45% and above and for Hemtatic Iron ore +35% to 45% Fe may be revised as Hemtatic Silicious Iron Ore Fe 35% to <45%. This correction is also applicable to Plate no. 4 Geological Cross Section.
4. Plate no 4- Geological cross section: Geological section may be updated as per the comment given in para 2.2.5.10
5. Plate 5a to 5e - Production and Development Plan: (i) All the plates may be updated as per the comments given in para 4.2.2.2. (ii) Plate - 5e: Layout as on 31/03/2026 is mentioned, the same should be corrected as Layout as on 03/02/2027.
6. Plate No. 6 – Five Year Production and Development Section: All the five year proposal of Production and Development Sections are given & combined in one plan. Year-wise Production and Development Section should be prepared separately.
7. Plate No. 9 – Conceptual Plan: (i) This plan may be corrected as per the comments given in para 6.2.11. (ii) Only one cross-section (CC') has been given on the plan, for better understanding, it is advised provide two more cross

sections. (iii) In the Cross section CC' Conceptual Mining & Backfilling is given, there is no backfilling proposal, hence, backfilling word may be deleted.

8. Plate No. 11 – Environmental Plan: Gird lines and co-ordinates are not provided, the same may be provided.

Plates Softcopy (Shape file/kml file)

1. There is only one old silicious stock, however 17 polygons shown, the same may be rectified.
2. In the bore hole attribute table, drill hole depth, type of drilling (RC/Core/DTH) and angle of drill hole details are not given. The same may be provided.
3. In the stocks attribute table, quantity, area, height and grade of stock may be provided in attribute data
4. In the workings, bench number and Bottom RL may be provided in attribute data
5. Contour lines not provided, the same may be provided.
6. Old silicious dump is also given and combined with OB Dump within UPL, the same may be deleted. There are only 02 OB dumps in text, however 39 polygons has been created, the same may be modified suitably. Similarly, Mineral stock layer also need to be modified.
7. In shed and structure layer, attribute information is not given in some polygons, the same may be provided.
8. In Retaining wall layer, length of the Retaining wall may be provided in attribute table.
9. Plantation details not given in the plan Surface Plan, the same may be provided.
10. Section lines are not drawn, the same be provided with section no. in Attribute table
11. Attribute information given in Afforestation information may be reviewed and suitably modified.
12. The grades of Fe content given in the Geology Index may be corrected as per comment in para 2.2.5.2.
13. All the plans in softcopy (shp/kml files) need to be updated as per the comments given in the text part also in plates hardcopy.
14. All the polygon/line/point features should contain the necessary information given in the text as an attribute data. Accordingly modifications should be done in the respective plans

Annexure

1. Index of the Annexure may be given along with page numbers.
2. All additional Annexures referred in the scrutiny/comments may be provided.