

Scrutiny Comments on Examination of Draft Modification to the Approved Mining Plan including Progressive Mine Closure Plan in respect of your The Sandur Manganese & Iron Ore Mine (ML No. 2678) over an area of 1864.70Ha located in Deogiri, Subrayanahalli, Kammathuru villages, Sandur Taluk, Ballari District, Karnataka State submitted for approval Under Rule 17(3) of MCR, 2016 and Rule 23 of MCDR, 2017.

GENERAL

1. No cells may be left blank. Either “Nil” or “Not applicable” may be furnished.
2. If any relevant information pertaining to the ‘calculation’ or ‘supporting information’ or ‘clarification’ may be provided as foot note in the respective table/para.
3. Wherever additional information or supporting document is given in Annexure, Annexure no may be specified in respective paras/foot note of the table.
4. Financial year may be mentioned in the Year column, where Year 1/2/3/4/5 is mentioned.
5. Undertaking/Consent letter from the lessee may be digitally signed by the lessee.
6. Serial Numbers of all the chapters and sub paras should be as per the prescribed format. This may be verified and maintained as per the formats issued on FAQ on New Mining Plan format vide letter No.R-11011/1/IBM-M-A-MP/2012-CCOM-Vol-II dated 08/09/2021.

Cover Page

7. The title of the document should be given as “Modification to the Approved Mining Plan including Progressive Mine Closure Plan” submitted under Rule 17 (3) of MCR, 2016 and Under Rule 23 of MCDR, 2017.
8. Category: Fully mechanized may be corrected as ‘Mechanized’ and end use of mineral captive/non-captive may be specified.
9. Month and Year of the document submitted for modification of the Mining Plan may be specified at the bottom.

Chapter 1: GENERAL INFORMATION

10. **Para 1.1.1:** Copies of Mining Lease deed pertaining to Initial and subsequent grant of lease grant may be provided in Annexure and Annexure no. may be mentioned at the foot note of the table.
11. **Para 1.1.2 Mining Plan Submission Criteria:** LOI number is not applicable, same may be specified.
12. **Para 1.3.1:** Copies of all Approval letters mentioned in this para of Mining Plan, Scheme of Mining, Modification of Mining Plan from 1991 to 2021 may be enclosed as Annexure for reference and Annexure no. may be provided in the para.
13. **Para 1.3.4:** All Statutory compliances letter may be enclosed and Annexure no. may be specified respective para’s for ready reference.
14. **Para 1.3.4.4:Land Acquisition Details:** The lease area is Government Revenue land and Forest land and so far no land acquired, hence, details provided in this para may be deleted and mentioned as ‘Not Applicable’.
15. **CEC Capping:** The details of permissible Annual Production as per CEC approval letter along with CEC approval letter number and date may be given as Para 1.3.4.5 and supporting document may be provided as Annexure

16. **Para 1.3.5.1 Location of Boundary Pillar Co-ordinates:** No details provided in this para, details may be provided as per the format.
17. **Para 1.3.6: Owner/Nominated Owner Details:** (i) The enclosed Annexure-4 contains only extract of nominated owner; hence it is advised to attach the 'Minutes of Board Resolution of nominated owner' as per the format. (ii) Copy of Pan Card of nominated owner maybe enclosed and Annexure no. may be provided in this para. (iii) Consent letter issued by nominated owner is not digitally signed.
18. **Para 1.3.7:** (i) The enclosed Declaration Certificate of Qualified Person is not digitally signed, the same may be digitally signed and enclosed. (ii) Copy PAN card and experience certificate of QPs may be enclosed

Chapter-2: Geology & Exploration:

19. **Para 2.1.2:** Mining leases located within 5km from the lease boundary may also be provided in others.
20. **Para 2.1.3 Regional Geology:** (i) Regional Stratigraphy of the area may be provided.
21. **Para 2.1.4: Local Geology :**(i) Local geological setup of the area may be sequentially provided (older formation at the bottom and younger formation at the top).
22. **Para 2.1.4.3:** All the litho units in the lease area along with ore bodies may be briefly explained.
23. **Para 2.1.4.6:** The information given in this para may be corrected suitably as per the comments given in Para 2.1.4.3
24. **Para 2.1.4.5** Extent of Weathering/ Alteration may be explained in detail.
25. **Para 2.1.4.6 Nature/Form of Mineral:** Percentage of Lumps and fines in the Iron ore and Manganese ore may be provided in this para.
26. **Para 2.1.4.7 Extent of Mineralization:** Lateral and vertical extent of Iron ore and Mn ore may be provided.
27. **Deposit Type:** The given in this para may be reviewed for its correctness. All the ore types available in the lease along with nature of occurrence may be considered while mentioning the Deposit Type.
28. **Para 2.2.1:** Details of exploration activity information provided in sub-paras also contains the information of previous plan period, it is advised to provide only plan period information i.e. for the year 2021-22.
29. **Para 2.2.1.2 to 2.2.1.8, 2.2.1.11 and 2.2.1.12:** It may be mentioned as 'No Proposal & Not Carried out'. This comment is also applicable to Para 2.2.2 where no proposal and exploration not carried out.
30. **Para 2.2.1.7 Exploratory Drilling:** (i) Name of the exploration agency may be mentioned as 'SMIORE'. (ii) Drilling activity summery is given in two rows, total no. of bore holes drilled and total meterage during the year 2021-22 may be provided. Type of drilling RC/DTH may be specified in the foot note of the Table. 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 Bore hole ID given in surface geological plan and sections.*

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.

31. **Para 2.2.1.8 Exploratory Mining:** Details given in this para is not appropriate, the same may be deleted.
32. **Para 2.2.1.9 Sampling:** No details provided in this para, all the sample details collected during the plan period may be provided as per the format.
33. **Para 2.2.1.10 Chemical Analysis:** Summary of samples analyzed may be given in this para and chemical analysis of bore hole samples may be provided as per the comment given in para 2.2.1.7
34. **Para 2.2.1.11: Petrology and Mineralogical Studies:** (i) Mineralogical study has been carried out in the year 2015, hence it is advised to delete the information provided in this para and the same may be provided in Exploration activity carried out in Before last plan period i.e. in para 2.2.2.11. (ii) Details Type of sample, no. of samples studied etc. may be provided as per the format.
35. **Para 2.2.1.12 Beneficiation Studies:** (i) The study has been carried out during before plan period, hence, the given information in this para may be deleted and same may be provided in Para 2.2.2.12. (ii) Beneficiation study is conducted only for Iron ore, hence, the same may be specified in the foot note of the Table.
36. **Para 2.2.1.13 Bulk Density Study:** (i) The study has been carried out during before plan period, hence, the given information in this para may be deleted and same may be provided in Para 2.2.2.13. (ii) The details given in Ore/OB and Mineral column may be verified for its correctness and details given may be suitably corrected.
37. **Para 2.2.1.14: Area covered under exploration:** Details given in this para may be reviewed, Area covered under different level of exploration during plan period may be given in this para.

38. **Para 2.2.2:** (i) Name of the exploration agency may be specified. (ii) Details of exploration carried out during before last plan period may be given in sub-paras.
39. **Para 2.2.2.7 Exploratory Drilling:** Details of Bore holes, litho log and chemical analysis may be provided in Annexure as CSV or Excel file as per the comment given in Para 2.2.1.7.
40. **Para 2.2.2.8 Exploratory Mining:** Details given in this para may be deleted.
41. **Para 2.2.2.9 Sampling and Para 2.2.2.10 Chemical Analysis:** No information provided in these para, details of samples collected and analyzed may be provided as per the format.
42. **Para 2.2.2.11, 2.2.2.12 and 2.2.2.13:** Details of Mineralogical studies, Beneficiation Test and Bulk Density Study carried out may be provided and correction may be made as per the comments given in Para 2.2.1.11, 2.2.1.12 and 2.2.1.13.
43. **Para 2.2.2.14 Area Covered under exploration:** (i) The information given in this para may be verified for its correctness (ii) In the 2nd table, in the Year column, financial year may be mentioned. (iii) The information of mineralized area given in this para is not tallying with the information given in para 2.2.1.14, the same may be verified and corrected suitably.
44. **Para Ore Body Geometry & Grade:** (i) No information provided in this para, all the ore bodies (iron ore reef, iron ore float and Manganese deposit) details may be provided as per the format. (ii) Name of the ore body given in this para may be provided in Geological Plan for ready reference.
45. **Para 2.2.4.1 Methodology:** Details given in this para may be reviewed; additional details may be provided (i) Resource/reserves estimated as per UNFC guidelines may be specified. (ii) The Bulk Density considered for different type of ore types for calculation of Reserve/Resources may be specified. (iii) The Recovery percentage considered for different type of ore may be provided in tabular form. (iv) Software used for Reserve/resources may be provided. (v) If the resources estimated in Block model method, percentage of variance in Cross sectional Method and Block Model Method may be specified.
46. **Para 2.2.4.2 Resource Calculation:** Details are given in separate table as enclosure which is not acceptable. Further, in the given table additional columns are added and calculations are not made as per the prescribed format all the calculation details may be provided in this para as per the format.
47. **Para 2.2.4.3 Mineral Resource Estimate for Conversion to Mineral Reserve:** (i) The details given in this para viz. G1 category, Ore types, Fe grade, Mn grade may be reviewed for its correctness (ii) In addition to the information given in the para, it may be mentioned that Mineral reserves are estimated from geological resources by considering the level of exploration, deducting the blocked resources in safety zone & beyond Ultimate Pit limit, economic factors etc. (iii) Hematitic siliceous ore mentioned may be corrected as Hematitic siliceous Iron (HSIO) ore and grade of HSIO should be Fe 35% to <45%, the same may be corrected.
48. **Para 2.2.4.4:** Threshold Value & Cut off Parameters are not clearly defined, the same may be reviewed and corrected.
49. **Para 2.2.4.5: Mining Factors or Assumptions:**(i) In the Mining Factors, Overall pit slope, bench slope, Ultimate Pit Depth, other mining factors if any may be provided. (ii) Lumps and fines ratio in Iron ore and Manganese ore may also be provided.
50. **Para 2.2.4.7 Cost & Revenue factors:** Summary of the feasibility report may be provided and copy of the feasibility report may be enclosed as Annexure.

51. **Para 2.2.4.10 Classification:** No details are given in this para, details of reserve/resources estimated by UNFC classification may be provided.
52. **Para 2.2.4.11 Calculation of Blocked Resources:** No information provided in this para, details are given as separate table. Details are given in separate table as enclosure which is not acceptable. All the calculation details may be provided in this para as per the format.
53. **Para 2.2.4.12:** Calculation of Reserves is missing. The same may be provided as per the format of Mining Plan.
54. **Para 2.2.4.13: (i)** Reserve/resources figures are given in million tonnes, the same may be provided in tonnes. **(ii)** There are mistakes in the Total quantity of reserves & Resources and grade information provided, the same be verified and corrected suitably. **(iii)** In addition to the Reserves resources given as on 01/01/2022, the Reserve/resources may also be provided as on 01/04/2021 may also be provided as per the format. **(iv)** Along with range, average grade of Mn ore may also be provided.
55. **Para 2.2.5: Future Exploration Proposal:** As per Rule 12(4) of amended MCDR, 2021, in the case of existing mining leases, *“Detailed exploration (G1 level) over the entire potentially mineralized area under the mining lease shall be carried out in the manner specified in the Minerals (Evidence of Mineral Contents) Rules, 2015 within a period of five years from the date of commencement of these rules.”*. Hence, it is advised to propose the exploration activities as per the MEMC Rules to cover the mineralized area into G1 level. Non-mineralized area needs to be proved by geological mapping, exploratory pitting/trenching and drilling if necessary.
56. **Para 2.2.5.1:** In the year column, financial year may be specified.
57. **Para 2.2.5.2 to 2.2.5.4.1:** If there are no exploration proposals for Geophysical survey, geochemical survey, pitting, trenching etc), the same may be specified.
58. **Para 2.2.5.5: Exploratory Drilling: (i)** All 171 proposed boreholes for the year 2022-23 are DTH, in DTH boreholes sample recovery is poor and not possible to get representative samples. Hence, it is advised to propose Core drilling in the hard formation and RC drilling in the soft formation. **(ii)** Exploratory drilling may be proposed as per the comments given in para 2.2.5. **(iii)** Drilling may also be proposed where the boreholes are ended in mineralized zone to prove the mineralized zone 3-dimensionally.
59. **Para 2.2.5.6: Exploratory Mining:** Manganese production in 10 pits is shown as exploratory mining, which is not correct. This para is only applicable where pitting/mining carried out for exploration purpose. Hence, details given in this para may be deleted.
60. **Para 2.2.5.7 Sampling:** No information given in this para. Tentative number of samples going to be during the course of exploratory work may be given in this para as per the format.

CHAPTER-3: MINERAL BENEFICIATION/PROCESSING

61. **Mineralogy of the ROM/Mineral:** The given information in this para is not tallying with enclosed Mineralogical Report; hence same may be verified and corrected suitably.
62. **Para 3.3 Crushing Section:** As per the physical properties of the ore, Manganese ore does not require crushing and crushing is required for only Iron ore, hence proposed mineral for crushing may be provided in this para.

63. **Para 3.5.1 Dry Screening and Classification:** (i) Aperture size of screen mentioned in this para is not tallying with the product size given in secondary crushing, the same may be verified and suitably corrected. (ii) Product size mentioned as 1mm and 2mm, which is not correct, the same may be reviewed and corrected suitably.
64. **Para 3.9 Overall Water requirements:** No information provided in this para. Water requirement for mining & allied activities, source of water, water quality report etc may be provided as per the format.
65. **Para 3.10: Flow Sheets and Charts:** Flow sheet showing different stages of crushing and screening may be provided along with feed size and output size details for Iron ore and Mn ore separately in Annexure. The feed size, different stages of crushing and screening and output size should tally with the information given in Text.

Chapter -4: MINING METHOD (OPENCAST)

66. **Para 4.2.1.2 Dump and Stack details** are not given here and given separately as an enclosure, which is not acceptable. The information should be provided as per the prescribed format in the sub-paras 4.2.1.2.1 and 4.2.1.2.2. This comment is also applicable to 4.2.1.3 Stabilized Dumps
67. **Para 4.2.2.1 Bench Parameters:** (i) All the columns of the table should be in 01 page, accordingly given table may be organized. (ii) Financial Year may be given in Year column. (iii) Depth of Water Table column cells is merged and details may be provided as per the format. Depth of water table may be provided in mRL. (iv) Maximum depth of working may also be provided in mRL for ready reference with plans and sections.
68. **Para 4.2.2.2: Year Wise Opencast Development – Iron Ore Production:** (i) All the columns of the table should be in 01 page, accordingly given table may be organized. (ii) Financial Year may be given in Year column. (iii) Top soil may also be included in OB quantity; accordingly OB to Ore ratio may be calculated. (iv) Pit-wise bottom RL for the Year may be provided in foot note (v) Iron ore production is proposed only in 3 Iron ore pits viz. KTIO-A, KTIO-B and KVHIO, however, incidental iron ore production from Manganese ore pits are not considered in Production & Development. The pit-wise Iron ore volume and quantity may be provided as per the format. (vi) The proposed ROM quantity should not exceed the Capping fixed by CEC. (vii) Recovery percentage considered for Iron ore is 95% and remaining 5% material is not specified. (viii) The total ROM quantity in 2nd table is not in line with the 1st Table, the same may be verified and corrected.
69. **Year Wise Opencast Development – Manganese Ore Production:** (i) The comments given in the above para for Iron ore production at sl. no. (i) to (iv) may be considered and the given information in this para need be corrected. (ii) The OB/ROM volume and quantity may be verified for its correctness. (iii) Section-wise detailed calculation may be provided in Annexure and in Production & Development plan. This comment is also applicable to Iron ore production.
70. **Para 4.3.1:** (i) From the enclosed slope stability study report it is observed that, the study is conducted only in 04 pits (KTIO-A, KME(E), KPTS and KBHIO). Hence, it is advised to carryout Integrated Slope Stability study for mine pit/benches and dump and report may be enclosed. (ii) The given Annexure nos. in this para 8a, 8b 8c, 8d and 8e are not tallying with the enclosed documents, the same may be verified for

its correctness. **(iii)** It is mentioned as Hydrological Study Report enclosed as Annexure, however, the same is not available in the enclosure. **(iv)** Blasting Vibration Report may be mentioned in Any Other Study Report.

71. **Para 4.3.2 Insitu Mining :** **(i)** Financial Year may be provided in Year column. **(ii)** The information may given in this para may be updated after revised calculation as per the comments given in Para 4.2.2.2. **(iii)** Average grade of proposed production may be provided in the grade column.
72. **Para 4.3.2: Insitu Mining:** Details given in this para may be updated in line with the comments given in Para 4.2.2.2.
73. **Calculation Summary:** **(i)** Details given in this para may be updated as per the calculation in Para 4.2.2.2. **(ii)** The total ROM quantity for the year should not exceed CEC capping.
74. **Para 4.4.2: Shovel/Excavator Requirement:** **(i)** The bucket fill factor and swell factor mentioned as 1.5 and 1.3 respectively, the same should be less than 1. **(ii)** Tonnage factor mentioned as 5, which is not correct, it should be less than 2.6. **(iii)** Production quantity per hour (TPH) range has been provided, actual figure may be given. The information give in this para may be reviewed in detail and corrected suitably.
75. **Para 4.4.2 to 4.4.4:** No stand by excavator, dumper and drill machine is proposed; the same may be reviewed and proposed suitably.
76. **Para 4.5.1 Blasting and Explosive requirement:** **(i)** The information in this para is in range, actual figure may be provided as per the format. **(ii)**As per EC, blasting is required only for OB, hence, drilling and blasting may be proposed only in OB.
77. **Para 4.6.1 Managerial Manpower:** As per EC condition, separate Environmental Management Cell should be created with suitable Qualified Person. Hence, it is advised to propose Environmentalist along with other disciplines proposed.
78. **Para 4.6.4 Semi skilled workers:** No information provided in this para, the manpower between skilled and unskilled may be provided in this para.
79. **Para 4.6.6** is Other Manpower, which is not given and Para no. 4.6.7 is named as 4.6.6 which is not acceptable.
80. **Para 4.6.6 :** **(i)** The total no. of persons engaged per day mentioned as 1655 nos., however as per the Manpower details provided in Para 4.6.1 to 4.6.5, the total manpower engaged per day is 326 nos. Hence, the given information may be reviewed and corrected suitably. **(ii)** Material to be handled per shift may be specified as per the format.
81. **Para 4.6.7 Supervision:** The para no. may be corrected. No information provided in this para, the information may be provided as per the format.
82. **Para 4.7.1 Existing Dump:** **(i)** some of the waste dumps height are mentioned as 60m, the same may be verified for its correctness. As per the EC condition, the maximum height of the dump shall not exceed 20m, each stage shall be preferably of 10m and overall slope of the dump shall not exceed 28 degree. Hence, it is advised to carry out the slope stability to the existing dumps.
83. **Para 4.7.2 New Dump:** Dumping is proposed at only one location **(ii) The proposed height of waste Dump (D36a) height is 80m, which is not acceptable.** Dump should be proposed as per the EC condition.
84. Proposed dumping details for the plan period is not provided, this para may be reviewed and Year-wise dumping proposal details may be provided as per the format. **(ii)** From the Production & development Plan it is observed that, for the plan period, dumping is proposed on existing dump. As per EC condition, the

maximum height of the dump shall not exceed 30m and each stage/terrace of the dump preferably of 10m, the height of the dump should be maintained as per EC condition. Further, since, the dump proposed is located on slope, it is advised to carry out the dump slope stability study as well.

- 85. Para 4.7.3 Existing Stack and 4.7.4 New Stack:** No details provided in these paras. Existing Stack (ROM/lump/fines/sub-grade) may be provided as per the format and New stack locations may be proposed if required.
- 86. Para 4.9 Use of Mineral:** (i) In the physical specification, along with the information provided, size of lumps and fines of Iron ore and Mn ore may be provided. (ii) In the chemical specification column, the given information is not correct, chemical composition or grade of the ore (lumps & fines) may be specified. (iii) In the foot note of the table it may be specified as 'Direct Selling through e-auction'.

CHAPTER-5: SUSTAINABLE MINING:

- 87. 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.

CHAPTER-6: PROGRESSIVE MINE CLOSURE PLAN

- 88. Para 6.1: Status of Land:** Area details given under Mining, Dump and Utility Services may be verified for its correctness.
- 89. Para 6.2.1 Backfilling:** (i) Availability of top soil during the plan period may be provided. (ii) Financial Year may be provided in Year column. (iii) Estimated expenditure for backfilling during the plan period may be provided.
- 90. Para 6.2.2.2 Retaining Wall:** It is proposed to construct 5866m of Retaining wall which appears to be unrealistic which may be verified for its correctness. Also location details are not provided. The location details (UTM grid Easting & Northing co-ordinates may be provided in from & to column as per the format. This comment is also applicable to Para 6.2.2.2.3 where Garland drain of 7467m is proposed.
- 91. Para 6.2.7:** Estimated expenditure may be provided as per the format for proposed dump area stabilization & development.
- 92. Para 6.2.8:** Cumulative work done as on date for Reclaiming the area and expenditure incurred may be provided.
- 93. Para 6.2.9:** Total expenditure incurred and estimated expenditure proposed to be incurred for Top Soil Management may be provided.
- 94. Para 6.2.11: Land Use of Lease Area at the Expiry of Lease Period:** The Area details given in various activities may be verified for its correctness. In the foot note of the table it may be it committed to undertake fencing of mine pits, regrassification of dumps and top OB benches, utility service area etc.

CHAPTER-7- FINANCIAL ASSURANCE/PERFORMANCE SURETY:

- 95. Para 7.1 :** (i) Only details of area put to use may be provided in the Year-wise proposal table, (ii) The area put use at start of the year given in this para are not

tallying with details given in para 6.1. The area details given in this para may be reviewed in detail and suitably corrected and updated. (iii) Area of retaining wall, garland drain, check dam, Safety zone plantation etc. may be shown others. (iv) The necessary changes also to be incorporated in the Financial Assurance Plan.

96. Revised bank guarantee as per the Mineral Conservation and Development (Amendment) Rules, 2021 needs to be submitted.

CHAPTER 8: REVIEW OF PREVIOUS PROPOSALS:

97. Here the review may be provided only plan period i.e. for the year 2020-21
98. **Para 8.1.1:** Area proposed under activity and utilized and deviation percentage may be verified for its correctness.
99. **Para 8.2.1: Exploration:** In the reasons of deviation it may be mentioned as 'No deviation' additional boreholes drilled.
100. **Para 8.2.2 Mine Development:** Deviation percentage may be specified and reasons for deviation may be specified as per the format.
101. **Para 8.2.2.1:** Dumping site proposed and actual location may be provided UTM grid.
102. **Para 8.2.5:** Unit of area and depth may be specified.
103. In the achievement column it is mentioned as 'as on 01.02.2022' the same may be deleted in this column and may be specified in reason for deviation.
104. **Para 8.3.2:** Details of Grievances received and Redressed may be provided if any. If not, it may be mentioned as 'nil'.

Plates - Hardcopy

105. All the plans should be updated as per the scrutiny comments wherever applicable.
106. As per the scale relaxation given by IBM, over all lease plans viz. Surface Plan, Geological Plan, Conceptual Plan, Progressive Mine Closure Plan etc has to be prepared and submitted in 1:5000 scale. However, the plans are submitted in 1:15,840 scales, the same may be modified to 1:5000 scale.
107. **Surface Plan:** (i) Name of all the blocks, pits and dumps in the lease area may be specified with readable font size. (ii) Lease boundary pillar co-ordinates (in Deg min sec format) for the corner pillars of the block may be specified for ready reference. (This comment is applicable to all the plans. (iii) Forest and Revenue land may be demarcated in the plan.
108. **Geological Cross Section:** (i) Some of the proposed boreholes are ending in the mineralized zone, same may be extended up to non-mineralized zone, and accordingly depth of the proposed bore hole may be taken into account. (ii) The Iron ore and Manganese ore bodies may be shown in solid color for better clarity. (iii) Shale and intrusive rocks shown in same color code, the same may be shown in different colors.
109. **Production & Development Plan:** (i) The exploratory pit mentioned on the plan may be deleted; production and development proposed for the plan period may be demarcated. (iii) Proposed Retaining wall, garland drain and plantation details along with location (UTM grid) may be provided on the plan. (iv) Proposed Production & Development for the year 2022-23 may be reviewed as per the comments given in para 4.2.2.2 accordingly Production & Development Plans and Sections may be updated and calculation details along with bottom RL during the proposed year may be provided. (v) proposed waste dump height may be reviewed as per the comments given in Para 4.7.2.

- 110. Production & Development Section:** The pit limit for the proposed plan period may be shown prominently in the sections.
- 111. Progressive Mine Closure Plan:** (i) Cross sections are not drawn systematically. (ii) Plan may be prepared as per the scale relaxation granted by the competent authority (1:5000) scale for better understanding of all the features, proposals. (iii) The retaining wall and garland line thickens in the plan may be slightly increased. (iv) Quantity and location details of proposed retraining wall, garland drain and plantation information may be provided in tabular form in the plan.
- 112. Conceptual Plan:** The cross sections are drawn only to few blocks and are in complete, sections may be drawn systematically covering pit, dump. If the ore does not exhaust at the conceptual stage, re-grassification/plantation may be shown on the OB benches, dumps and utility areas.
- 113. Financial Assurance Plan:** Area details given in the tabular form may be reviewed and suitably corrected.
- 114.** Graphical litholog of bore holes may be provided in plate

Plates soft copy (kml file)

- 115.** All the plans may also be updated in softcopy (.kml/.shp) as per the comments given in Plates (Hardcopy) and in text.
- 116.** Plans provided in softcopy are not named clearly, difficult to search, it is advised to make different folder for each plan.
- 117.** The plans submitted in kml format is not in order. The features (point, line & polygon) should contain the attribute information, for example (i) Point feature – Bore hole should contain information of Proposed/Drilled borehole, Type of bore hole (RC/Core), Depth of drilling, collar RL etc. (ii) Line feature – Road, power line, streams, benches etc should contain basic information and (iii) Polygon features – Dump, Pit, lease boundary, safety zone, infrastructure should contain details which are given in text. if we click on any point/polygon the details should be there in those features as attribute data. Accordingly all the plans in the kml files should be updated.
- 118.** Conceptual Plan, Progressive Mine Closure Plan, Financial Assurance Plan, Environmental plan are not provided in KML format.

ANNEXURE:

- 119.** The numbering of annexure has not been sequentially maintained as per the format. Numbering of annexure to be specifically maintained as per the format. Any additional annexure enclosed may be followed after annexure no 18 with corresponding details. All the annexure as mentioned in above scrutiny comments of different chapters to be enclosed. Also, corrections in the annexure, as mentioned above in scrutiny comments of different chapters to be incorporated and corrected annexure to be enclosed.
- 120.** Undertaking letter of QP may be digitally signed by the lessee.
- 121.** Copy of Valid Bank Guarantee for the entire plan period as per the amended MCDR Rule 2021 needs to be submitted.
- 122.** All the annexure to be properly numbered/ paged and relevant annexure to be signed by QP. The Page no range should be accordingly given in list of Annexure. All the annexure should be legible.

