



भारत सरकार GOVERNMENT OF INDIA
खान मंत्रालय MINISTRY OF MINES
भारतीय खान ब्यूरो INDIAN BUREAU OF MINES
क्षेत्रीय खान नियंत्रक के कार्यालय
OFFICE OF THE REGIONAL CONTROLLER OF MINES



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No. MRMP/A/16-ORI/BHU/2020-21

Date: 16.07.2021

To
Shri Sauvick Mazumdar, Nominated Owner & Director,
M/s FACOR Limited, AT-D.P.Nagar,
P.O.- Randia, District- Bhadrak
State -Odisha-756135.

Sub: Approval of Modification of Review of Mining Plan under Rule 17(3) of MCR, 2016 of Ostopal Chromite Mine of M/s FACOR Limited over an area of 72.843 ha. situated in Jajpur district of Odisha.

Reference :i) Your Letter No. KLCM/IBM/91/2021 dated 25.06.2021 received on 28.06.2021.

ii) This office letter of even No. dated 28.06.2021.

iii) This office letter of even no. dated 28.06.2021 addressed to Director of Mines, Government of Odisha Copy endorsed to you.

Sir,


This has reference to the letter cited above on the subject. The draft Modification of Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on site inspection dated 15.07.2021 by Shri Ramkishan R., Senior Assistant Controller of Mines. The deficiencies observed are enclosed herewith as Annexure-I.

You are advised to carry out the necessary modifications in the draft Modification of Review of Mining Plan in the light of the contents vide Annexure-I and submit **three(3) firm bound and two (2) soft copies of the document text in Pen drive in a single MS Word file (the drawing/plates should be submitted in Auto CAD compatible format or JPG format in resolution of 100 x 100 pixels on same Pen drive)** with financial assurance under Rule 27 of MCDR 2017 of the Modification of Review of Mining Plan within 15 (fifteen) days from the date of issue of this letter, for further necessary action. If the total page of annexures exceeds 50 (fifty) then it should be submitted as separate volume. But reference of these annexures must appear in the Modification of Review Mining Plan document. The Plates are also to be submitted in separate volume.

The Para-wise clarifications and the manner in which the deficiencies are attended should invariably be given while forwarding the final copies of the

Modification of Review of Mining Plan. It may be noted that no extension of time in this regard will be entertained and the Modification of Review of Mining Plan will be considered for rejection if not submitted within above due date. It may also be noted that if the deficiencies are not attended completely, the submission would be liable for rejection without further correspondence.

Yours faithfully,


(HARKESH MEENA)
Regional Controller of Mines

Copy for kind information and further necessary action to Shri Vinod Saini, Mining Engineer & Shri S.K. Biswal, Geologist, Kalarangiatta Mine, M/s FACOR Ltd., P.O. Kalarangiatta, Dist- Jajpur-755028.


(HARKESH MEENA)
Regional Controller of Mines

Scrutiny comments on examination of Modification of Review of mining plan with PMCP of Ostapal Chromite Mine over an area of 72.843 Ha of M/s FACOR Ltd in Jajpur District of Odisha State

GENERAL POINTS:

1. Sequence of paragraph and its numbering as per IBM Manual Appraisal MP 2014 has not been covered in text. All the headings as mentioned in the IBM Manual Appraisal MP 2014 should be furnished in all chapters in the text.
2. The printing of the text part of the document should be on single page only.
3. All the text, tables and annexures to be properly indexed/ numbered/ paged and signed by qualified person. Correct table reference number to be mentioned at all relevant places. All the certificates/annexures should bear dated signature. The drawings index page should also mention the scale of plan/section prepared.
4. The lessee's full address should be furnished on cover page. Qualification of QPs should be mentioned on cover page. Under some of the paragraphs in text part of the document in different chapters, the information not furnished whereas it is mentioned as not applicable and mentioned in approved mining plan. Such information should be furnished.
5. The information furnished under Para 3 should be in Para 3(1). In Para 3.1, the date of approved mining plan/review of mining plan should be given in tabulated format.

Sl. No	Mining Plan / Review of Mining Plan etc.	Submitted Under (Rule Reference)	Approval Letter No. & Date	Period	Valid up to

Geology and Exploration

6. In 5.3, the summarized information of the chrome bands present within the lease area should be submitted in the following tabular format.

Number of Regional Chrome Ore bands present within the lease area	Name of the Regional Chrome ore Band present within the lease area	Local nomenclature of the Regional Ore band within the lease area	Summarized information of the Chrome ore bands present within the lease area														
			Location (Quarry Name/Pit) etc.	Length of the Chrome Ore band	Width of Chrome ore band	Explored depth (in mRL)	Level of Exploration as per UNFC of the Chrome Ore Bands	Strike, direction, Dip direction and dip amount	Present UPL (in mRL) for Opencast method of mining	Nature of Chrome Ore band (Physical description)	Chemical analysis of Chrome Ore band	Gangue minerals associated with Chrome ore band	Control of mineralization	Associated Lithology both in Hang wall and footwall			

7. The details of the previous/existing drilled boreholes may be annexed in the following tabulated format.

Year of drilling	Exploration Agency	Borehole No	UTM Coordinate		Collar mRL	Bottom mRL	Borehole Depth	Angle of drilling	Direction of drilling (Azimuth)	Type of drill hole (Core/RC/DTH)	No of samples collected	No of samples analyzed
			Northing	Easting								

The information of 10% of check samples analyzed from NABL laboratory regarding the above samples analyzed should be furnished with documentary evidence.

- The G1 and G2/G3/G4 boundary of ore body at depth has not been defined as per the provision of MEMC Rules, 2015 (refer Part II, Point No 4). Necessary modifications to be done at all relevant places in the document like reserve resource estimation, plans and section etc.
- The summary of exploration after complying scrutiny point no 8 may be furnished in the following tabulated format. The L-V section along the strike of ore body should be submitted.

Ore Body	Deepest Intersection (mRL)	Explored Depth of G1 and G2 Exploration (in mRL)	Depth of G1/ G2 Level of exploration from Surface (m)

- The proposal for exploration under future exploration program is inadequate. The proposal may be modified to the extent that it should clearly indicate the level (in mrl) to which G2/G3 level is to be converted to G1 level in mrl for both the ore bodies. The proposed boreholes should be in grid pattern for G1 level of exploration as per exploration norms specified in MEMC Rules, 2015. The details of year wise boreholes proposed may be furnished in the format tabulated below.

Year of drilling	Section No	Proposed Borehole No	UTM Coordinate		Collar mRL	Bottom mRL	Proposed Borehole Depth	Angle of drilling	Direction of drilling (Azimuth)	Type of drill hole (Core/RC / DTH)	Purpose of Borehole
			Northing	Easting							

- Reserves and resources should be re estimated after complying scrutiny point no 9,10&11 by cross section area method. Accordingly Geological plans and sections should be updated. The recovery factor in resource/reserve assessment may be derived from time series data or properly justified regarding how the estimation was made. All resources shall be assessed up to the threshold value and the resources between the threshold value and the cut-off grade should be reported separately. Parameters considered for resource/reserve estimation should be defined. The blocked resources should be properly categorized as per UNFC guidelines and justification of UNFC codes should be furnished accordingly. Backup calculation tables of reserves/resources should be furnished.
- The calculation tables regarding the figures furnished in UNFC reserves/tables should be furnished.

24. The proposed waste dumping furnished in tables a column should be added for whether it is in outside UPL or within UPL, nature of dumping whether it is permanent or temporary and also whether it is mineralized area or non-mineralized area .
25. The details regarding the mineral rejects that are going to be stacked during the plan period should be furnished in the similar fashion as furnished in the tabular format for waste dumps viz., location, quantity, area, etc.,
26. The actions initiated/completed/ongoing against recommendations made by CIMFR report for slope stability of the waste dumps should also be furnished. Accordingly necessary proposals should be incorporated.

USE OF MINERAL and MINERAL REJECT

27. Describe briefly the requirement of end-use industry specifically in terms of physical and chemical composition of the mineral.
28. Give details of processes adopted to upgrade the ROM with in lease area including mineral reject if any to suit the user requirements in terms of physical and chemical compositions viz., like beneficiation processes adopted and also efforts for complete utilization of ROM produced from mines by blending of mineral, in mineral conservation point of view.

PROCESSING OF ROM AND MINERAL REJECTS

29. The material balance chart to be furnished. The ROM feed grade and tonnage with recovery%, grade and tonnage of product at each stage of processing may be shown in the flow sheet along with block diagram both for existing and the proposed plant.
30. The proposed ore grade going to be beneficiated grade should be clearly mentioned whether it is between +10-30% Cr₂O₃ or +10-40% CrO₃. The statement mentioned in in page no.81 should be rechecked.
31. The study report regarding the tailings pond design should be enclosed. The quality of tailings disposed should be furnished in terms of physical and chemical composition of the material to be disposed at tailings site.
32. In page 85, it is mentioned that tailings generated will be disposed in the waste dumps. However, if tailings as waste together with mine waste generated are proposed to be dumped together, then study report from reputed institute regarding stability of the dump should be carried before any such disposal. Need to do necessary corrections.

OTHERS

33. Information in respect to the proposed manpower both on departmental role and contractual has to be mentioned separately in the text for managerial level, supervisory level and others.

PROGRESSIVE MINE CLOSURE PLAN

34. Existing base line information to be furnished on the basis of environment monitoring parameter carried out. The environment monitoring data of last one year to be enclosed for ready reference.
35. In FA table the different heads should be kept as per the format specified in IBM manual appraisal 2014. The area under different heads of FA table should be properly shown in different hatching with present area and additional area in FA plan. Need to do necessary corrections at all relevant places.

36. Year wise mining plan proposals and land use pattern should be submitted in softy copy in the format of .kml or .shp file along with document. Need to do necessary corrections.

PLATES (General):

1. Show a scale of the plan at least twenty-five centimeters long and suitably sub-divided. The conventions provided under the Metalliferous Mines Regulations, 1961, shall be used in preparing all plans and sections. All plans and sections should comply with the provisions of Rule 32 of MCDR 2017. The plans and sections submitted should bear the certificate that - the plans and sections are prepared based on the lease map authenticated by the state government. All plans and sections should be signed with date by Qualified Person. Date of observation of Magnetic meridian should be shown in all plans.
2. Along with local grid coordinates, UTM coordinates should also be provided in the grid lines and latitude/longitude coordinates should be mentioned adjacent to boundary pillars in all plans and sections.
3. The existing and proposed bench positions clearly with mRL to be mentioned in the all plans and sections. Date of survey should be given on plan and sections and the same should be signed by with date. Grid Lines to be shown in all sections - Geological Sections, Development Sections, Conceptual sections, Dump sections etc.
4. The lithology should be shown in all relevant sections. Year wise development part plan and sections should be submitted in the scale of 1:1000
5. With reference to CCOM Circular No 2/2010, the geo-referenced mining leases map superimposed on latest high-resolution satellite data has not been submitted over the lease area by certifying the lease area over the plan. Lessee has submitted but it is not superimposed on satellite image.
6. All plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager, Mining Engineer and Mining Geologist.
7. The scale of the authenticated lease plan mentioned in list of plates page should be rechecked. Authenticated lease plan should be submitted on a scale of 1:3960.

Key Plan:

8. The key plan should incorporate all features as mentioned Rule 32 5 (a) of MCDR 2017 and all features should be shown in index as well.
9. Approach road to lease area should be shown in key plan. The Latitude/longitude of the extreme ML pillar coordinates should be marked in key plan. Wind rose diagram should be depicted.

Surface Plan:

10. UTM coordinates to be mentioned along with local coordinates along the grid lines. The features shown in the index is not distinguishably shown in the plan. Diverted forest area to be shown in the plan as well as marked in the index of the map. The UPL should be shown over the plan and in index. Necessary corrections to be done.
11. Surface right area and forest, non -forest area, diverted forest area should be shown
12. Few boundary pillars should be correlated with some permanent ground features giving distance and bearing/direction. Nomenclature of the existing waste and mineral reject dumps along with fines stack should be mentioned.

13. The Surface Plan should be prepared to satisfy the provision as laid down rule 32 (1) (a) of MCDR'2017.

Geological Plan & Section:

14. In the Geological plan, the UTM coordinates should be mentioned along with local coordinates along the grid lines. The part plan and sections should cover the entire lease area. The sections should cover entire lease area.
15. Geological Plan should be updated with revised boreholes proposal as mentioned under future exploration program. The redefined UNFC boundaries and UPL along with UNFC code should be prominently shown in Geological Plan and sections. Necessary corrections to be done in all the sections.
16. The proposed boreholes to be plotted in dotted lines in Geological sections along with proposed borehole number, RL and proposed closing depth at the bottom of the borehole. The year wise proposal for drilling to be shown in different contrasting color in both Geological Plan and Geological sections. The year wise color of the boreholes proposed in Geological plan should match with the plotted proposed boreholes in Geological sections.
17. The color of the UPL should be same in all plans and sections. In the Geological sections, the revised UPL and benches should be drawn properly. In Geological Plan, longitudinal section line to be shown and a longitudinal section to be submitted.
18. The Geological Plan should be prepared to satisfy the provision as laid down rule 32 (1) (b), (c) and (d) of MCDR'2017.

Development plan & Section:

19. Quarry name, existing and proposed bench profiles, waste dump, backfilling proposal, mineral reject dumps etc. to be shown in the development plans and sections.
20. The lithology of the area should be clearly shown in year wise development plan and sections in the area proposed for development.
21. Each year wise development proposal should be shown separately in different color. The UPL may be redefined and benching pattern of existing and proposed to be made in all development plans and sections. The UPL should be shown in Red color which should contrast to the year wise development proposal color shown in development plan and sections. The existing and the proposed quarry positions year wise should be properly demarcated.
22. Year wise mining plan proposals should be submitted in softy copy in the format of .kml or .shp file along with document. Need to do necessary corrections.
23. The RL of the benches should be clearly shown in year wise development plan and sections. The profile of development sections should match with the contour of the respective plans.
24. Development sections should be equally spaced in the proposed development year wise plan and accordingly the respective sections should be submitted. the sections should be made on updated geological sections.

CONCEPTUAL PLAN SECTIONS

25. The conceptual plan should depict workings keeping in view of the validity of the lease period as proposed in the text. Conceptual longitudinal and T- sections representing the entire

lease area should be submitted. dumps are shown in the mined out land i.e mining quarries. Whether it is backfilled or dumped should be clarified.

Environment plan:

26. The Environment Plan as prepared should satisfy the provision as laid down rule 32 (5) (b) of MCDR'2017.
27. The proposed environment protective measures to be shown in environment plan. The drainage pattern of the lease area also to be shown on the plan. Air, water and noise monitoring stations to be shown in the plan. Wind rose diagram should be shown with predominate wind direction

Reclamation plan

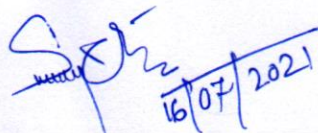
28. Reclamation plan should be submitted as per IBM appraisal of mining plan describing the proposals to be implemented for reclamation and rehabilitation of mined-out land including the manner in which the actual site of the pit will be restored for future use. The proposals may be supported with yearly plans and sections depicting yearly progress in the activities for land restoration/ reclamation/rehabilitation, afforestation, protective measures etc,

FA Plan/PMCP


29. The area under different heads of FA table should be properly shown in different hatching with present area and additional area in FA plan. The FA table should be furnished.

ANNEXURES

30. All the annexure to be properly numbered/paged and relevant annexure to be signed by Geologist/surveyor/QP etc. It is observed that many of the annexures are not legible. A legible copy of same to be enclosed.
31. Copy of bank guarantee should be enclosed. Photographs of boundary pillars should be enclosed.
32. Copy of quality of air, water, soil, noise and other environmental a parameters monitoring report of the last year should be enclosed.
33. The copy of the qualification & experience certificate in respect of the QP to be enclosed as per Rule 15 of MCR, 2016.


16/07/2021

(Sanjib Kumar Mohapatra)
Senior Mining Geologist


16/7/21

(Ramkishan R)
Senior Asst. Controller of Mines