



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



REGD. POST
Phone: 0674-2352463
TeleFax: 0674-2352490
E-mail: ro.bhubaneshwar@ibm.gov.in
Plot No.149, Pokhariput
BHUBANESWAR-751020

No. MPM/FM/06-ORI/BHU/2018-19

Date: 25.04.2018

To

✓ Shri Shiv Kumar Jain,
Managing Director & nominated Owner,
M/s Mishrilall Mines Pvt Ltd,
Mineral House, 27A, Camac Street,
Kolkata- 700016

Sub: Approval of Modification of Mining Plan of Saruabil Chromite Mine along with Progressive Mine Closure Plan (PMCP), over an area of 246.858 ha in Jajpur district of Odisha State, submitted by M/s Mishrilall Mines Pvt Ltd under Rule 17(3) of MCR, 2016.

Ref: - i) Your letter No. Nil dated 24.03.2018 received on 09.04.2018.
ii) This office letter of even no. dated 09.04.2018.
iii) This office letter of even no. dated 09.04.2018 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 of Modification of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on earlier site inspection carried out on 29.01.2018 by Shri Dayanand Upadhyay, Sr. Assistant Controller of Mines & Shri Dilip Jain, Junior Mining Geologist. The deficiencies observed are enclosed herewith as Annexure I.

You are advised to carry out the necessary modifications in the draft Modification of Mining Plan along with Progressive Mine Closure 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 CD in a single MS Word file (the drawing/plates in Auto CAD compatible format or JPG format in resolution of 100x100 pixels on same CD)** with financial assurance under Rule 27 of MCDR 2017 of the Modification 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 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 modified copies of the Modification of Mining Plan along with Progressive Mine Closure Plan. It may be noted that no extension of time in this regard will be entertained and the Modification of Mining Plan along with Progressive Mine Closure 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.

भवदीय / yours faithfully,

(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional controller of Mines

Scrutiny comment on Modification of Mining Plan including PMCP in respect of SARUBIL Chromite Mine of M/s MISRILALL Mines Pvt. Ltd. in Jajpur district of Odisha State.

1. **General:** As per certificate of Incorporation, there are five directors of the company. However, in current document information in respect of only three directors have been furnished. It is mentioned that undertaking from all the directors regarding their working in other firm is submitted (Annexure-5). However, same is not enclosed.
2. Page 7: Reference of experience and qualification certificate to be given i.r.o. Qualified person instead of RQP certificate.
3. CCOM circular number 2/2010 and its addendum regarding geo-reference mining lease map and ML boundary pillars to be implemented.
4. **Geology and Exploration:** Page 26- The table presented on the page should also include explored level of ore body (mRL) based on the drilled BH. Further, at places the length of the Ore body, Strike and dip direction, surface level mentioned in the table does not match with the Geological plan. The name of the regional band to be mentioned in the table and same to be depicted on geological plan.
5. Page 27: The details mentioned about length, width, top RL and bottom RL in respect of the existing quarry is not matching with Geological plan. The detail of the exploration carried out mentioned on same page does not match with approved document. Check and justification to be given for any change. Check and rectify.
6. Proposal of the exploration given seems to be inadequate to explore entire lease area. Accordingly proposal of the exploration may be revised to explore entire lease area under G2 level of exploration as per rule 12(4A) MCDR, 2017. Proposal of exploration to be given in such manners that entire/all chrome Ore Body may be explored up to certain level. Proposal of Core drilling to be along with DTH drilling. All proposed BH to be completed in the year 2018-19 only as per rule 12(4A) MCDR, 2017.
7. Page 32: The level of the exploration depicted is not as per the MEMC rule 2015. Accordingly area considered under different level of exploration to be revised.
8. Page 72: It is mentioned that a total of 74 BH have been drilled in the lease area. However, only 71 BH have been depicted on the plan. The information of drilled BH to be submitted as per following format:

S.No.	Year	BH Id	Easting	Northing	Collar RL	Inclination	No. of samples	Mineralized/non-mineralized	Ore Intersection mRL
1			UTM	UTM	mRL				

9. Latest copy of form I and J as per MCDR, 2017 to be enclosed for all the drilled BH for ready and future reference as per Rule 47 and 48 of MCDR, 2017. The same should be signed by the Geologist appointed under MCDR, 2017.
10. Mineral Resource: For categorization of mineral resource under different UNFC category, an updated longitudinal vertical section is required. The long section submitted is incomplete as ore body intersection level along with BH details has not been depicted. Updated mine profile along with proposed excavation limit by the end of 31/03/2020 to be depicted. On the basis of intersection location as per UNFC, the resource under G1, G2 etc. to be considered. An updated long section to be submitted showing all the information as per industry standards. The resource under forest and non-forest area to be estimated separately.
11. The resource of the chromite has been increased from 3.44 to 10.41 million tonnes. Proper justification to be submitted.
12. Information of Mineral/ ore blocked dues to benches, UPL, barriers, pillars, road, railway, river, nala, reservoir, electric line and other statutory barriers etc, under forest, sanctuaries and non-forest etc. to be given separately.
13. As per guideline of "IBM manual on appraisal of Mining Plan 2014" at least 10% of total samples to be analyzed in accordance to BIS and reports from NABL accredited/Government Laboratory. Accordingly, BH wise sample submitted to above laboratory to be given and 10% of total samples to be analyzed from NABL accredited/Government Laboratory.

14. **MINING:** Para-5.1, the details of existing number of benches in ore & OB, bench height, width, slope and gradient of haul road should be furnished.
15. Page45: the information of length, width and area mentioned in table is not matching with the surface plan. Similarly information furnished in respect of the waste dump and Nickel-ferrous dumps are also not matching with the surface plan. Page 46: In text it is mentioned that there are seven stacks in the lease area, however, only six stacks has been shown on the surface plan. Check and rectify.
16. Page 48: It is proposed to have five stacks in the lease area including stack of mineral reject. However, seven stacks has been shown on the development plan. Further, number of benches proposed to work in Ore and Waste is not matching with the development plan.
17. The UPL as shown on the development plan is not in concurrence with the Chrome Ore Zone. The present considered UPL to be justified with overall pit slope angle, stripping ratio, depth of mineralization and its economic viability. Therefor the depth of the UPL to be revised accordingly.
18. Page-50: The grade of saleable ore and mineral reject to be furnished with bullet notes of bulk density considered.
19. Year wise development proposal has not been furnished with bench mRL, cross section and cross-sectional area considered.
20. The excavation proposal is to be given considering the grade of ore obtained from different quarries in such a way that overall grade of ore by blending with high grade would be marketable in the interest of mineral conservation.
21. Quantum of production and development may be described year wise with no. of benches, mRL, depth of excavation, direction of advance, location and cross-section considered.
22. The ore stacks are made in the lease area in scattered manner therefore a stackyard should be proposed in such a way that the entire ore stack kept at one place and protected with retaining wall.
23. In current document production proposal of chromite ore has been enhanced from 0.35 million tonne to 0.50 million tonnes. Justification as per rule 17(3) of MCR, 2016 to be given.
24. **Conceptual mining plan**, cumulative waste generation and top soil generation and protective measures have not been furnished considering the life of mine As per IBM Manual Appraisal MP-2014.
25. **Mine Drainage:** The drainage plan submitted does not illustrate the drainage of the lease area. The entire run-off the lease area to be shown with direction of flow with arrow mark. The final discharge point to be highlighted and all mine water to be treated before final discharge. The details of water drawn from external source and arrangement of its recycling may be given for domestic and industrial purpose.
26. **Stacking of Mineral Reject/Sub-grade and Disposal of Waste:** The proposed dump height and phase-wise stabilization and protective measures undertaken should be satisfied the conditions imposed by environmental clearance dated 19.02.2009. Accordingly proposal to be revised.
27. All the existing and proposed waste dumps and sub grade dumps to be referred with grid reference. Further, briefly describe the proposed dumping ground within lease area be proved for presence or absence of mineral with reference to exploration/bore holes data.
28. The analysis report of nickeliferrous limonite should be submitted and discussed for their future use on the basis of their physical and chemical properties. The location of sample to be depicted in relevant plan.
29. Proposal of waste dumping has been given over the existing road. Prior approval to be obtained from competent authority before any such dumping. Same to be reflected in the text.
30. **Processing of ROM and Mineral Reject:** Material balance chart to be furnished indicating the yield at each stage, grade at each stage etc. The chemical analysis carried out for tailing material to be given in the text. The location of tailing sample to be depicted on relevant plan and same to be referred in text.
31. **Others:** Proposed manpower both direct and contractual has to be mentioned in the text.
32. **Progressive Mine Closure Plan:** The lease is expiring in 31st March 2020, there for PMCP submitted in instant document should in line with the FMCP.

33. Baseline information of the lease area should be described on the basis of information incorporated in first approved mining plan at the time of grant of ML. 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. Further, base line information to be furnished for surrounding 500 meter form lease boundary.
34. The proposal of fencing should be given for entire Excavations/ pits endangering fall of persons/cattle etc. Proposal of rehabilitation to be given for the area marks as "to be shifted in year 2018-19". Proposal of geo-textile/coir matting with plantation to be given for matured slop of the proposed dump. If the Sub-grade material is not utilized fully by the end of 31/03/2020, proposal of coir matting over such dumps to be given in the interest if protection of environment. Garland drain and retaining wall to be proposed along the proposed sub-grade stack. Proposal of series of settling tank to be given along waste dump 6. Accordingly progressive mine closure plan to be revised.
35. The details of all existing infrastructure available in the lease area should be furnished in tabular form and their present value and value at the end of 31/03/2020 after depreciation. Further their future utilisation should be evaluated. The decommissioning cost and final value of the decommissioned infrastructural facilities if any may be furnished.
36. Closure activity like waste dumps management (Garland drain, retaining wall, settling tanks, and coir matting with plantation), safety and security (fencing of pits, dumps etc), evacuation of mineral reject of proposal should be started form the year 2018-19.
37. Time scheduling for proposed activity like waste dump management (Garland drain, retaining wall, settling tanks, plantation), safety and security (fencing of pits, dumps etc), disposal of machineries, reclamation & re-habilitation, infrastructure, protective measures of environment should be supplemented by PERT (programme evaluation review technique) or Bar chart and these activities should be clearly shown on reclamation plan.
38. Provision of sump at the bottom of quarry is to be proposed and all the quarry water drained to the same in such a way that less interference to the ore body, which leads to less dilution of hexavalent chromium.
39. As per approved document financial assurance consider for dump area at the beginning of the plan period was 66.89 Ha, which is reduced to 42.116 Ha. in current document. Justification to be submitted.
40. **Plates:** General: All the latest plan and section to be submitted (by the end of March 2018) and updated date of survey to be mentioned in all the plans and sections. Relevant plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager and Mining Geologist. The disposition of ore zone should be shown invariably in all plans and section.
41. **Surface Plan:** Diverted forest land to be shown. Bore hole put by GSI to be highlighted. Further, All the sections should have present and proposed bench mRL.
42. **Key Plan:** The approach road to lease area has not shown. Many of the feature as prescribed under rule 32(5) of MCDR, 2017 has not been shown on the plan like village boundary with population, forest with tree density, sanctuary, waste land, agriculture land etc. The prominent wind direction to be shown with wind rose diagrammed.
43. **Geological Plan & Section:** All the drilled BH to be depicted on geological plan. All proposed BH to be shown on Geo-section along with collar mRL, BH id and proposed depth at the end. Proposed level of intersection of proposed BH to be shown on longitudinal section. The section lines to be shown with different color legend. Litho information as per drilled BH to be depicted on sections. Longitudinal section to be submitted band wise instead of quarry wise. The proposed BH table to be depicted on the geological plan.
44. A separate plan showing different level of exploration and relevant information to be submitted for more informative along with geological plan.
45. **Development plan & Section:** Proposed bench mRL to be shown on the plan and section along with existing bench mRL. Existing and proposed environmental measures to be shown with different color. RL of UPL to be marked on the sections. The limit of waste dump shown in the section seems to be not as per the plan. Check and rectify.

46. **Environment plan:** The Environment Plan as prepared should be satisfy the provision as laid down rule 32(5) (b) of MCDR2017. Index has been given for environment monitoring paramet however, same has not depicted on the plan.Surface features of adjacent mine has not been shown in core and buffer zone.
47. **Reclamation plan:** All the proposed features in PMCP to be depicted year wise in the plan. All the proposed features in tabulated manner may be depicted on the plan.
48. **Enclosures:** Few of the annexures are not legible. Liable copy of same to be enclosed. Copy of consent to establish as mentioned under para 3.6 (c) for Carbon Ferro Chrome Plant to be enclosed. The feasibility study report to be enclosed as annexure.
49. A fresh certified list of all the directors of the company to be enclosed along with undertaking of their working in other firms. Form 32 in respect of all the directors to be enclosed. Signature and address proof of managing director and QP to be enclosed.
50. Legible copy of surface right obtained (annexure-7) and forest clearance (annexure-8) to be enclosed.

In view of above, wherever necessary correction required to be made.

-----X-----X-----X-----