



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. MPM/FM/01-ORI/BHU/2018-19

Date: 10.04.2018

To

✓ Shri Sourav Mishra, Director & Nominated Owner,
M/s Ghanashyam Mishra & Sons Pvt Ltd,
At/P.o- Gorumahisani,
Dist- Mayurbhanj, Odisha-757042

Sub: Approval of Modification of Mining Plan of Gorumahisani Iron Ore Mine along with Progressive Mine Closure Plan (PMCP), over an area of 349.50 ha in Mayurbhanj district of Odisha State, submitted by M/s Ghanashyam Mishra & Sons Pvt Ltd under Rule 17(3) of MCR, 2016.

Ref: - i) Your letter No. GMS/IBM/03/2018 dated 19.03.2018.
ii) This office letter of even no. dated 22.03.2018.
iii) This office letter of even no. dated 22.03.2018 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 site inspection carried out on 07.04.2018 by Shri Dayanand Upadhyay, Sr. 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 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 approved Mining Plan including PMCP in respect of Gorumahisani Iron Ore Mine, Area 349.50 ha. of Shri Ghanashyam Misra & Sons Pvt. Ltd. in Mayurbhanj district of Odisha State.

GENERAL:

- I. On cover page "Modification of Review of Mining plan" should be furnished. The e-mail, phone & fax no. of lessee may furnish on cover page.
- II. Date of lease expiry may be furnished with remarks as the period is extended upto 31.03.2020 under section 8(A)(6) of MMDR Amendment Act 2015.
- III. Supplementary lease deed for the extended period has not been enclosed.
- IV. Page-22, review of exploration program has not been furnished with Form-I under rule 47 of MCDR'2017.
- V. Page-23, review of excavation of ROM and OB production after December 2017 has not been incorporated. Achievement of Plantation has not been furnished according to proposal.
- VI. All the annexure to be properly indexed/ numbered/ paged and signed by qualified person. All the certificates should bear dated signature.

GEOLOGY:

- I. Page-33, detailed description of geology of the lease area such as shape and size of the mineral/ore deposit, disposition various litho-units indicating structural features etc. to be given.
- II. Page-33, the summary of year wise drilling carried out before 2017-18 has not been furnished.
- III. Page 48: As the lease period is going to expire by 2020 and as per MMDR, Act same will be auctioned. Hence, the proposal of exploration to be given in the first year of plan period. The details of individual proposed BH to be given in following format:

Sl.No	Year	BH No	Northing	Easting	Collar RL	Core/RC/DTH	Metage	Inclination	Forest/Non-Forest/ diverted Forest	Surface Right/ Non-Surface	Purpose of BH
1	2018-19	PBH 01									
2	2018-19	PBH02									

At the end of the table cumulative number of proposed BH in forest area, non-forest area, diverted forest area, Surface right area and non -surface right area to be given.

- IV. The details like potentially mineralized area and its extent (coordinate in WGS 84), potentially mineralized area explored (in forest and non-forest area, Govt. land, Pvt. land etc.), remaining area, proposal of exploration to explore remaining potentially mineralized area to be given with justification of adequacy. Status of exploration as furnished at page 48, the area under G2 is not matched with plan.
- V. The quantity of different ore types and its proportion in lease area to be given. It is observed from geological section that some of the exploratory BH have been closed in mineralized area, hence, exploratory proposal in such area up to the end of the mineralization to be given. Further, proposal of exploration to be given/revised as discussed during site visit.
- VI. All the drilled and proposed BH to be depicted on the Geological section along with mRL and its actual and proposed depth for better referencing. Additional boreholes to be proposed in northern part between grid 1200W/200W & 800S/400N. Accordingly proposal of the exploration may be revised.
- VII. 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
- VIII. The Geological boundaries of exploration limit i.e. G1/G2/G3 etc. are not marked as per Minerals Evidence of Mineral Contents Rules 2015. Same to be revised as per mentioned rule. Accordingly, the resource estimation calculation, geological plan/UNFC plan and Sections need to be revised.

- IX. Geological section is not prepared as per Minerals Evidence of Mineral Contents Rules 2015. The UNFC depicted in sections as G1, G2.. should be replaced with UNFC codes.
- X. Page 52-53, the reserve and resources as furnished in tabular form are not in chronicle order. The Geological reserve should be converted into mineable reserve after depletion of blocked mineral resources then mineable reserve should be derived with saleable and sub grade mineral.
- XI. The grade of the reserve and resources has not been mentioned in summary table depicted at page-52. The word non-saleable should be omitted.
- XII. Page-55, summary of reserve and resources as furnished in tabular form only more than 58% Fe has taken in 111 category and below 58% Fe as sub grade taken in 221 category while in tentative excavation program sub grade generation is being proposed. It may be clarified.
- XIII. Page-55, computation of reserve/resources has furnished in text in tabular form is not in sequence and does not match. The figures as furnished are not matched with the summary of reserve and resources furnished at page-53. The UNFC code has also not been furnished.
- XIV. Page-55(a)-55(t), Section wise resource estimation calculation to be given along with average grad etc. Further, 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.
- XV. Reporting of Mineral Resources in the format prescribed in Part IV-A of Minerals (Evidence of Mineral Contents) Rules, 2015 to be submitted.

MINING:

- I. In present submission the proposed excavation of ROM is not commensurate with the production proposal as furnished in earlier approved review of mining plan and proposed ROM production is 2.0 times more than production proposed in earlier approved scheme of mining. It may be justified.
- II. Page-57, details of existing dumps have not been bifurcated with waste dumps and sub grade dumps. All dumps should be specified with their location. All the sub grade dumps should be specified with their quantity and grade and certified by surveyor.
- III. Page-58, Para-b, total excavation as furnished in table has not been detailed with each quarry proposed for production. The stripping ratio has also not furnished.
- IV. The recovery factor of ROM has considered only 42%. It may be justified with cross-section. In 2018-18, the recovery of ore is furnished 30% and sub grade is 13% of the total excavation which contradicts the recovery parameters considered.
- V. Page 58 & 59, the sub grade should be replaced with mineral reject. The average grade of saleable and sub ore should be furnished.
- VI. Page-69(a)-69(g), the quantity of sub grade/mineral reject as furnished in table is higher side. It should be re-checked and rectified.
- VII. 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.
- VIII. The conditions imposed by EC, FC, SPCB may submitted alongwith parawise compliance report and deviation occurs with remarks coloumn along with documentary evidence in annexure.
- IX. Ultimate pit limit should be depicted on all relevant plans & sections.

- X. It has been proposed to backfilling the quarry but in development plan and section backfilling has not been shown. Before backfilling of the quarry as proposed it should be ensured the exhaustion of ore body in terms of their depth & extension in the interest of mineral conservation.
- XI. Back filling proposal has not been explained properly. Exhausted area to be backfilled by OB/Waste to be specified with mRL and area on year to year basis with description of the method & manner of disposal of waste.
- XII. Page-70, In conceptual plan the life of the considered based on the mineable reserve is not matched with the mineable reserve as furnished in geology chapter.
- XIII. Page-71, it is mentioned that dumping space can be formulated after completion of exploration program 2019-20. Since the lease is expiring in 2020 all the exploration should completed upto the end of 2018-19. Accordingly it may be revised.
- XIV. Conceptual mining plan, cumulative waste generation and top soil generation and protective measures should be furnished properly. Restoration of safety zone, dead dump and slope of the dump may describe properly.

Mine Drainage:

It has been observed that a substantial amount of rain water supposed to be passed from the lease area. Hence, a mine drainage plan to be submitted showing flow direction of the water, location final discharge, arrange of arresting of solid waste etc.

STACKING OF MINERAL REJECT/SUB GRADE AND DISPOSAL OF WASTE:

- I. It has been observed during inspection that some of the dumps are lying within the UPL. Therefore a proposal should be furnished to re-handle the dumps lying within ultimate pit limit.
- II. The extent/location of the proposed dumps to be given also mentioned whether within UPL or not. Also give the details of the existing dumps (top soil, waste dump, mineral reject dump) within the lease area in tabulated form comprising dump number, designed capacity, present quantity, remaining quantity, bottom RL and top RL.
- III. The details of sub grade dumps and their analysis report should be submitted and discussed for their future use on the basis of their physical and chemical properties. Further, a detail programme for dump analysis to be given to assess the quality and quantity of all waste dumps.
- IV. Page-85, details Existing and proposed retaining wall, garland drain, settling tank etc. to be given yearwise with their location. Location of sub-grade storage along with year to year development of the SG dumps to be given.

PROGRESSIVE MINE CLOSURE PLAN:

- I. The lease is expiring in 31st March 2020, therefore PMCP submitted in instant document should in line with the FMCP. A separate undertaking may be given that FMCP will be submitted as per rule 24 of MCDR, 2017. Amount of financial assurance should be calculated as per rule 27(1) of MCDR-2017 and submitted accordingly.
- II. Updated air, water, noise, ground vibration and soil data with analysis from laboratory done at specified periodicity for last one year to be enclosed.
- III. Year wise plantation covering number of saplings to be planted, location and area covered may be furnished. Massive planation proposal on matured area may be given for early rehabilitation of matured area. Accordingly proposal of plantation, coir matting/geo textile etc may be revised/given.
- IV. It is advised that most of the plantation work to be completed in year 2018-19 only. The year 2019-20 should be for post care maintenance only. Accordingly proposal may be revised.

- V. Back filling proposal has not been explained properly. The proposed backfilling bottom mRL, top mRL, quantity of backfilling year to year basis etc. may be given.

PLATES (General):

- I. All plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager and Mining Geologist. The permission of change of scale other than prescribed scale has not been enclosed with annexure.
- II. Wind direction may show through wind rose diagram in key plan and environmental plan is not clear. The date of magnetic meridian as shown in relevant plans is not correct. This is to be corrected.
- III. Existing and proposed bench mRL to be mentioned in the all plans and sections. The UPL should be shown in red colour in all relevant plans and sections.

Surface Plan:

- I. Information of boundary pillars in UTM coordinates as well as in Latitude and longitude of all ML boundary points should be depicted in tabulated form on surface plan. Further, the nomenclature of the grid to be given both the side of the grid.
- II. Virgin area to be shown by contours and spot RL in surface plan.
- III. Few pillars may be correlated with some permanent ground features giving distance and direction. Different land use may be shown with colour codes. Virgin area to be shown by contours and spot RL in surface plan. Forest & Non forest area, Surface right acquired area etc. should be marked clearly.

Geological Plan & Section:

- I. Data related to strike, dip, dip-direction etc. shown on the geological plans are inadequate and not legible. Some more data may be shown to understand the geology of the area.
- II. In the Geological Plan UNFC boundaries, explored area, unexplored area, forest area, non-forest area, forest diverted area, drilled boreholes and year wise proposed boreholes in relevant colors to be shown.
- III. In sections UNFC codes have not been furnished as per Minerals Evidence of Mineral Contents Rules 2015. Some of the geological sections are not matching with plan. Some of the bore holes are missing and existing benches are not clearly marked.
- IV. The colour as depicted in sections are not shown through index. The symbol as shown in plan i.e KTD, RD, FD, ND.. not shown in index. The index of Geological features should be same in both Geological Plan and Geological sections. In Geological plan, the contour to be shown over the area wherever it is missed out.

Development plan & Section:

- I. The color of Section line as shown on Development Plan not matched with section. In some of section profile not matched with development plan. All the sections should be re-checked with plans.
- II. Backfilling as proposed in text has not been shown in development plan and sections. The UPL has not been marked correctly in development plan.
- III. A composite development plan and section should be submitted.

Environment plan:

- I. The Environment Plan as prepared should be satisfy the provision as laid down rule 32(5) (b) of MCDR2017.
- II. The proposed and existing environment protective measures to be shown in environment plan. The drainage pattern of the lease area also to be shown on the plan.
- III. Contours should be shown in core zone.

Conceptual plan: Conceptual plan may be prepared considering mineralization as revealed from the borehole logs. Direction of run off from the area based on surface contours may be shown on the plan and the sections.