



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



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

No. MS/FM/35-ORI/BHU/2017-18

Date: 01.12.2017

To

Shri Prahlad Roy Goneka,  
Managing Director,  
M/s Korp Resources Pvt Ltd,  
161, Rabindra Saranai,  
Burra Bazar, Kolkata-700007

Sub: Approval of Review of Mining Plan of Tantra Iron Ore Mine along with Progressive Mine Closure Plan (PMCP), over an area of 72.56 ha in Sundargarh district of Odisha State, submitted by M/s Korp Resources Pvt Ltd under Rule 17 of MCR, 2016.

- Ref: - i) Your letter No. SPS/KRPL/Tantra/RMP/2017-18/119 dated 18.11.2017.  
ii) This office letter of even no. dated 23.11.2017.  
iii) This office letter of even no. dated 23.11.2017 addressed to Director of Mines, Government of Odisha copy endorsed to you.

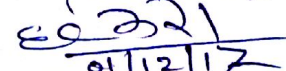
Sir,

This has reference to the letter cited above on the subject. The draft Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on site inspection dated 30.11.2017 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 Review of Mining Plan in the light of the contents vide Annexure 1 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 should be submitted 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 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 Review 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 final copies of the Review of Mining Plan. It may be noted that no extension of time in this regard will be entertained and the 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

**Scrutiny comments on examination of Review of Mining Plan of Tantra Iron ore Mine, over an area of 72.56 ha of M/s Korp Resources Pvt. Ltd. in district Sundargarh of Odisha State.**

**Text:**

**1. GENERAL**

- i) On cover page rule position under which review of the mining plan has been submitted and plan period have not been given. Out of total forest land diversified forest land is also not mentioned.
- ii) Complete details of lessee like residential and correspondence address, email address, contact number etc. to be furnished on cover page and text. Date of original lease deed and supplementary lease deed executed to be mentioned.
- iii) Certificate furnished by lessee in Para-D mentioned MCDR 1988. It is to be corrected.
- iv) A latest list of board of directors duly certified by competent authority along with address/contact nos. to be enclosed. Latest resolution w.r.t. nominated owner to be submitted.
- v) Introduction chapter has not been furnished in brief about forest clearance, Rnv. Clearance, CTO, surface right etc.
- vi) Page 6 & 7, Para 3.3, review of approved proposal of mining plan/scheme has not been dealt properly. Excavation of OB, sub grade/mineral reject, PMCP parameters, plantations have not been furnished.
- vii) During 2013-14 to 2017-18 total 50 bore holes (10 BH per year) were proposed in approved proposal of mining plan/scheme. Out of 50 bore holes only 21 bore holes have been drilled. The drilled bore holes have not been furnished yearwise along with form-J submitted to this office.
- viii) All the annexure to be properly indexed/ numbered/ paged and signed by qualified person. All the certificates should bear dated signature.



## 2.GEOLOGY:

- i) Page-10, shape and size of ore deposit has not been described with thickness and their variation along with dip & strike.
- ii) Page-11, Para (ii) A, summary of explored area as furnished in tabular form has not been described with nos. of bore holes drilled under G1 & G2 level, grid interval as specified in prescribed format.
- iii) Page-13, cost involved in exploration has not been furnished.
- iv) Page-14 & 15, Para-h, the proposed bore holes should be specified yearwise in place 1<sup>st</sup> year, 2<sup>nd</sup> year....
- v) Page-16, it is mentioned that 26 nos. of bore holes considered for re-assessment of the reserve & resources while in review chapter of mining plan it is mentioned that total 21 nos. of bore holes have been drilled during earlier plan period. It is to be re-checked & corrected.
- vi) Page-16, the parameters considered for reserve & resources estimation have not been furnished with dip & strike, mRL, nos. of bore holes and cross-section considered.
- vii) Page-17, the grade of intercalated waste is mentioned +45% Fe. It is to be verified and corrected.
- viii) Page-18, reserve & resources estimated are not as per provision of MEMC Rule 2015. The generation of sub grade/mineral reject of +45% and below 58% Fe during mining operation is considered under 211 category which is not correct.
- ix) The UNFC of reserve & resources has not been depicted correctly in geological plan. The area covered under G3 & G3 level of exploration has not been shown. The resources estimated under 333 category is also not shown in geological plan and section.

- x) Volume of ore zone in cross-sections recovery of saleable iron ore and sub grade/mineral reject are considered 50% and 40% respectively. Recovery float ore is considered 30%. It should be justified with time series data.
- xi) Page-25, table-1.11, summary of reserve/resources have not been furnished as per IBM Manual Appraisal MP-2014.
- xii) It is observed that some of the bore holes terminated in the ore zone therefore bore holes proposal may be revised as discussed during field inspection.
- xiii) The UPL is not marked correctly. It should be modified considering the extension of float ore zone.
- xiv) Further detail Exploration (G1 level) proposal should be given for entire potentially mineralized area under the mining Lease.
- xv) 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 to be explored to be furnished.
- xvi) The proposed borehole locations along with Borehole Id, Bore hole Collar RL and estimated closing depth to be shown in the Geological Sections.
- xvii) The existing forest, non-forest and mineralized zone boundary should be shown over the Geological plan in contrasting colours.
- xviii) The summary of boreholes drilled with total nos. of boreholes, grid interval, and minimum and maximum borehole depth with level of exploration to be shown in tabulated format.
- xix) Chemical Analysis Report of BHs samples should be enclosed from NABL Accredited laboratory or Govt. lab. as per guideline of "IBM manual on appraisal of Mining Plan-2014".
- xx) Reporting of Mineral Resources in the format prescribed in Part IV-A of Minerals (Evidence of Mineral Contents) Rules, 2015 to be submitted.



### 3. MINING:

- i) Page-27, Para2(a), existing method of mining has not been dealt properly in terms of nos. of benches in ore & OB, height, annual production etc.
- ii) Proposals have been given in 1<sup>st</sup> year, 2<sup>nd</sup> year...which is to be furnished in terms of specific yearwise.
- iii) Page-29, table2.1, tentative excavation has not been furnished with bullet notes like cross-section considered, recovery factor, bulk density etc.
- iv) The summary of Insitu excavation has not been furnished as per guidelines of IBM Manual Appraisal MP-2014.
- v) The grade of saleable ore and sub grade ore are missing in nos. of table also the quantity has not been furnished with their unit.
- vi) The final copy of environment clearance accorded by MOEF for 0.24MTPA of iron ore production and beneficiation plant of 1.0 MTPA capacity has not been enclosed and its status has not been mentioned in text. The condition as imposed in EC should be taken care.
- vii) The ROM of Insitu excavation should be restricted to EC limit. It has been observed that the production of only saleable ore of +58% Fe has been proposed for 0.24MTPA while sub grade/mineral reject generation during mining has not been considered within EC limit.
- viii) The ROM production as furnished should be within EC limit. Accordingly development plan and sections should be revised.
- ix) Page-31, In table sub grade/mineral reject generation a bullet notes should be furnished in reference to beneficiation and of mineral reject and handling of sub grade dump.
- x) Page-32, Para( c ) , it is mentioned that highest production 0.7 MT in 5<sup>th</sup> year which is not matched with Insitu excavation. It may be verified & corrected.

xi) It is observed during field inspection that the existing sub grade dump falls within ultimate pit limit. Therefore complete re-handling of sub grade dump should be furnished during plan period.

xii) The boundary of ultimate pit limit has not been drawn correctly. The influence float ore zone has not been considered and float ore zone shown outside the UPL. Therefore UPL should be revised considering the float ore zone.

xiii) Conceptual mining plan, cumulative waste generation and top soil generation and protective measures have not been furnished.

#### 4. Mine drainage:

RL of present and proposed workings and summer and post monsoon water table in the area supported with ground water monitoring study done in the area may be given. A water balance chart should be submitted.

#### 5. “Stacking of mineral reject/ sub grade material and disposal of waste”

i) Page-61, Para 4(a), subgrade is designates as +45% Fe to -55%Fe while in mining chapter sub grade considered +45% Fe to -58%Fe. It is to be verified and rectified.

ii) Page-62, all existing dumps may describe with its location, size along with mRL in text. The top mRL of all above to be depicted clearly on plans.

iii) Further, Build-up of dumps from year to year to be mentioned in text w.r.t. designed capacity of dumps, bottom and top mRL of individual terrace, dump slope, individual terrace height and slope with description of method & manner of disposal of waste should be mentioned.

iv) The proposal given for construction of retaining wall, garland drain to be furnished with specific year in view of proposed spread of the waste dump/mineral reject and mineral stacks. Hence, revised proposal may be given.



v) Waste dump management has not been described with Specific proposal for stabilization of dumps, by plantation, coir matting etc.

**6. “Other”:**

- i) Existing manpower both direct and contractual has to be mentioned in the text.
- ii) An organizational chart has to be provided for risk assessment study to whom communication to be made in case of any accident.

**7. “Progressive Mine Closure Plan”:**

- i) Page-76, the existing land use has not been furnished with land use at conceptual stage.
- ii) Page-79, Para (vi), human settlement has not been furnished with population distribution pattern around mines area, male female ratio, literacy etc.
- iii) Page-97, The total area as furnished in FA table coloumn ‘D’ is not matched.
- iv) Amount of financial assurance should be calculated as per rule 27(1) of MCDR-2017 and submitted accordingly.
- v) Page-66 & 69 total sum of existing land use pattern as furnished in table respectively is not matched with financial assurance table.
- vi) Proposed plantation should be furnished with area in hect within lease and outside the lease area yearwise with no. of saplings proposed.
- vii) Proposed location of plantation to be mentioned in tabulated form in text part of the document and same to be depicted in reclamation plan.
- viii) Updated air, water, noise, ground vibration and soil data with analysis from laboratory done at specified periodicity for last one year to be enclosed.

**8. Plates( General):**

- i) The plans and sections submitted do not bear the certificate that --the plans and sections are prepared based on the lease map authenticated by the state government.

- ii) All plans and sections shall show a scale of the plan at least twenty five centimeters long and suitably subdivided. All plans & sections prepared shall follow the conventions mentioned under MMR 1961.
- iii) Wind direction may show through wind rose diagram in key plan and environmental plan.
- iv) All plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager and Mining Geologist.
- v) Magnetic Meridian and date of observation of should be given on all relevant plans.
- vi) An authenticated lease plan has not been submitted.
- vii) An authenticated DGPS plan has not been submitted.

**9. Key Plan/Lease plan:**

The approach road upto the Mining lease has not been marked.

**10. Surface Plan:**

- i) The co-ordinates of boundary pillar as furnished in surface plan are matched with DGPS plan as verified during field inspection.
- ii) mRL of waste and sub grade dumps and fine stacks should be shown clearly.
- iii) Few pillars may be correlated with some permanent ground features giving distance and direction. Different land use may be shown with colour codes.
- iv) Forest & Non forest area, Surface right acquired area etc. should be marked clearly over a separate Lease Plan & Surface plan.

**11. Geological Plan & Section:**

- i) The colour code of float ore in plan and section are different. Geological features like strike, dip, dip direction etc to be marked clearly. Symbol as shown in plan not clearly marked in legends.



- ii) The UNFC has not been correctly depicted in geological plan. The proposed bore holes may be revised as discussed during inspection. The area covered under G1 & G2 category and limits of reserves/resources under different codes may be marked on geological plan and sections in different colour codes.
- iii) The proposed boreholes to be plotted in dotted lines in Geological sections along with Collar Id, RL and proposed closing depth at the bottom of the borehole.
- iv) The index of Geological features should be same in both Geological Plan and Geological sections.
- v) In geological section some mRL of vertical column is not matched with profile mRL as mention in Plan.
- vi) The grids are not marked in sections. The UPL should be shown in red colour in every section.
- vii) The direction along which geological section has been prepared to be depicted on geological section.

**12. Year wise development plan:**

- i) In Development section grid line has not been marked.
- ii) Profile of development sections should be re-checked with mRL as depicted in vertical coloumn. RL as furnished in vertical coloumn should be re-checked.
- iii) Existing position of sub grade dumps and proposed dumps height are to be marked with mRL.
- iv) Yearwise wise progress of sub grade and waste dump may show clearly with different colour.

- v) Spot levels at sufficient no of places on original surface, in the pit, and at the toe of benches may be shown so as to ascertain the average depth of excavation in a particular bench.
- vi) A composite development plan may be submitted.

**13. Environment plan:**

- i) The Environment Plan as prepared should be satisfied the provision as laid down rule 32(5)(b) of MCDR2017.
- ii) Contours in 60m periphery of lease boundary may be shown.
- iii) Surface features of adjacent mine has not been shown in buffer zone.
- iv) 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.

**14. Financial Assurance Area Plan:**

In the Financial Assurance plan area of each individual land i.e land degradation due to mining activity and processing unit etc at the end of plan period may be shown separately on this plan with highlighted boundaries and different colour codes for FA calculation.

**15. Reclamation Plan:**

Year wise progress of dumping, stacks, afforestation using different colour codes for easy understanding may be shown.

**16. Conceptual plan:**

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