

Scrutiny comment on Modification of Mining Plan including PMCP in respect of KUSUMDIH Mn. & Bx. Mine of M/s Bonai Industrial Co. Ltd. over an area of 52.176 Hectare in Sundergarh districts of Odisha State.

Date of Inspection: 03.10.2016

GENERAL:

- (1) As per executed lease deed, the lease was expired on 13.01.2001 and renewal of Mining Lease is not executed for further period. Mining Plan for the renewal period has already been approved under rule 24(A) of MCR, 1960. Hence, the reason/justification for present submission as a "Modification of Mining plan" to be given along with documentary evidence. Further, any details of proceeding/meeting about the execution of supplementary lease deed for renewal period to be enclosed and discussed.
- (2) From office record it is observed that Lease was declares as lapsed by State Govt. vide proceeding dated 16.06.2015. The revision authority set aside the above order vide order dated 11.05.2016. the details of same along with documentary evidence to be given in present submission. Further, as mentioned (page 1) the Order of Hon'ble Apex court dated 04/04/2016 to be enclosed.
- (3) The details of Forest and Non-forest area also to be given for proposed retained area.
- (4) CCOM circular no.2/2010 and its addendum regarding geo-referenced mining lease map and ML boundary pillars to be implemented.

GEOLOGY & RESERVES:

- (5) The exploratory BH drilled in Mn. And Bx. are to be given separately. Further, Borehole wise details like depth of the BH, Samples generated, samples analyzed, Ore Zone, etc. to be given in tabulated form. Further, the nature (Core or non-core) of proposed exploratory drill holes to be mentioned.
- (6) From geological plan it is observed that, some trial pits have been carried out in the lease area. The analysis details of same to be enclosed. Further, it is observed that the boundary of G1 level of exploration has been marked considering old pits in the area. The analysis details of these old pits also to be enclosed else G1 limit to be revised.
- (7) As per CCOM circular 3/2010 the threshold value of Bauxite defined as +30% Al₂O₃ and (-)5 % reactive Silica, whereas in present document % of reactive and non-reactive silica has not been defined/given for Bauxite. The above aspects should be taken into consideration in reserve estimation, excavation as well as in use of mineral. Further, Chemical analysis report of Bauxite also to be submitted along with the % of reactive silica.
- (8) The reserve and resource is not estimated as per as per Minerals (Evidence of Mineral Content) Rule, 2015 dated 17/04/2015, same to be revised considering Minerals (Evidence of Mineral Content) Rule, 2015. Depth continuity of mineralisation should be considered upto the depth of direct evidence of mineralisation. As per Minerals (Evidence of Mineral Content) Rule, 2015 dated 17/04/2015, no extrapolation is allowed in depth ward direction. Hence, in view of the Minerals (Evidence of Mineral Contents) rules, 2015, reserve and resource estimation may be revised.

- (9) The recovery of 90% of Salable Mn. Ore and 10% of mineral reject from ROM to be justified with documentary evidence. In similar line the recovery of BX. Ore to be justified with documentary evidence. Further, in last approved document the recovery of Manganese Ore has been considered 15% instead of 10%, needs to be justified.
- (10) Original Chemical analysis report of NABL lab as mentioned on page 16 to be enclosed.
- (11) As mentioned a sum of Rs. 52,157.00 is spend towards the exploration cost, the documentary evidence in respect of same to be submitted.
- (12) Page 22: It is mentioned that recovery of ROM Mn ore during excavation will be 7%, whereas, at some other pages same has mentioned as 10%. Verify and rectify.
- (13) Exploration proposal should be given for entire lease area, apart from explored area and the same should be completed within this Scheme period as per directive of ministry of mines vide letter number 10/75/2008-MV dated 23rd Dec 2010 under rule 27(3) of MCR 1960.

MINING:

- (14) The recovery % mentioned on the page 31 does not match with the recovery mentioned in geology chapter. Further, the details of recovery mentioned are not self-explanatory.
- (15) Individual bench slope is to be mentioned. Further, development section to be prepared along the geological section. Accordingly, development section and mine planning may be revised.
- (16) On page number bench height mentioned as 3 to 4 meter, whereas, same has mentioned as 3 to 6 meter on page 43. Verify and rectify. Same need to be corrected on other pages as well.
- (17) Location of mine workings proposed has not been referred by grid lines in text part of documents.
- (18) **Mine Drainage:** A drainage plan may be submitted showing the drainage pattern of the lease area. Accordingly, environment protective measures like retaining wall, garland drain, settling tank etc. may be proposed/revised wherever, required.

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

- (19) It is observed that Overburden dump are proposed on the non-explored Ground. The area should be brought into use only after proving non-mineralised or proposal should be purely temporary for a short period with technical constraints & justification.
- (20) Specific proposal for stabilization, reclamation & rehabilitation by plantation, coir matting etc. of proposed waste dumps should be given year to year basis in quantified terms supported with plan/sections.
- (21) The proposal of stacking of Mineral-reject to be given, in case if it not marketable. Same to be marked in relevant plan.
- (22) During inspection as well as from surface plan it is observed that at many places minerals have been stacked. A proposal of shifting may be given for these all mineral stacks to its designated place.

PROGRESSIVE MINE CLOSURE PLAN

- (23) Garland drain and retaining wall may be proposed around the Mineral Storage area to avoid any wash off during rainy season.

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- (24) The construction of Garland drain and retaining wall etc. to be completed by first year of the proposal and from second year onward only maintenance to be proposed.
- (25) In page no. 52, it is mentioned that water analysis result are under the prescribed limits. Attach reports of any such analysis.
- (26) **Disaster Management and Risk Assessment:** Briefly describe about emergency plan proposed for quick evacuation or measures to be taken during high risk accidents like landslides, subsidence flood, inundation in underground mines, fire, seismic activities etc. The capability of lessee to meet such eventualities and the assistance to be required from the local authority may also be described. The name of officials along with telephone number may be given; responsible to take appropriate action during such eventualities.

FEASIBILITY STUDY REPORT:

- (27) Financial analysis is not carried out as per UNFC guidelines. It should be carried out based on real time cost. Viability of the project should be analyzed up to the ultimate depth considering following points:
Capital cost, Cashflow forecast, Investment cost, Inflation forecast, Operating cost in detail, Sensitivity studies, RR, IRR, NPV for the project life, cost of operation, Closure cost and Rehabilitation cost etc.

PLATES:

General:

- (28) All plans and sections should be signed with date by certified Surveyor, Qualified Person, Mine Manager, Mining Engineer and Mining Geologist as per provisions of Rule 30 of MCDR, 1988 and Rule 66 of MMR, 1961.
- (29) The lease range also to be mentioned in UTM coordinates. Further, UTM WGS84 grid as per DGPS map from ORSAC to be superimposed in all the plans.
- (30) Date of observation of Magnetic Meridian should be given on all plans except Khasra Plan.
- (31) Forest area, Non Forest area, Surface right acquired area etc. should be marked clearly over relevant Map/Plan & Surface plan.
- (32) As discussed during field visit, surface plan in respect of Shape of the quarry, Roads etc. need to be updated. On surface plan, some dups have been shown, it is to be cleared that these dump are whether a waste dump, sub-grade dump ore stacked material.
- (33) During inspection it is observed that many of small quarry as shown on the surface plan are not exist in the field. Accordingly, Surface plan needs to be updated.
- (34) **Geological Plan & Section:** Direction along which geological section have been drawn to be depicted on the sections. N-S grid line to be depicted on sections. Color code given for different features in plans and sections to be same.
- (35) Ultimate pit limit to be shown properly along with bench height, width, bottom bench mRL etc.
- (36) Development section should also have the geological details of the deposit. Composite development plan and section may be submitted.
- (37) Few more dump sections required in different direction.

ENCLOSURE:

- (38) The copy of the incorporation of the company submitted is obscure. A legible copy of same to be submitted.

- (39) The grant order of Surface Right from competent authority to be enclosed.
- (40) Annexure number mentioned in text and corresponding annexure number in annexure is not matching at places.
- (41) Copy of resolution of Board of director submitted is obscure, a ligble copy of same to be attached.
- (42) Few photograph of the Boundary pillars, present land use to be attached.
- (43) All the pages of the text and relevant pages of the annexure to be signed by all qualified person with seal.

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

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18/10/2015.