

10. Chemical Analysis Report of BHs samples should be from NABL Accredited laboratory or Govt. lab. as per guideline of "IBM manual on appraisal of Mining Plan-2014". *Entire mineralized area should be analyzed meter wise with 10% of check samples. (At least for 10% of total samples may be analyzed in accordance to BIS and reports from NABL accredited/other government laboratory).* NABL Accreditation certificate of laboratory from where Chemical Analysis of BH samples carried out, should also be enclosed.
11. Details of All boreholes must be given in the form of standard borehole logs in annexure with serial wise nos. and summary. Further, exploration carried out should be corroborated with documentary evidence in respect of name of agency, order for the work, cost involved, and payment details by the lessee etc. with copy of form J & K maintained as per rule 47 & 48 of MCDR. All details of exploration carried out so far as enclosed should be certified by the concerned geologist of the mine.

#### **MINING & HANDLING OF MINERALS REJECT/SUB-GRADE AND DISPOSAL OF WASTE**

12. Para 2 A.a) : Ambiguous statement regarding working related to other lease and working at common boundary before getting approval of competent authority should not be given; and also not to be proposed.
13. As per Environment Clearance (EC) of the mine, accorded vide MoEF, Govt. of India letter No. J-11015/63/2008-IA.II(M), dtd. 26th Nov.2010, condition no. (ix), the maximum height of waste/OB dumps(s) shall not exceed 30 m having three terraces of 10 m each. However, the Dump no.-3 has already been made up to height of about 64 m (641 mRL to 705 mRL), with terracing at 23m, 21m, 10m & 10 m intervals. Although proposal has been given to remove/re-handle upper one 10 m terrace. However, in compliance to aforesaid EC condition, Proposal to remove/re-handle one more 10 m terrace (upper 2<sup>nd</sup> terrace) also be given.
14. Proposal for protective works to be carried out year wise around waste and sub grade dumps (precautions envisaged for confinement of the dumps) should be given with design details & materials to be used for its construction, taking in to consideration the average rain fall and catchment area.

#### **MINERAL PROCESSING**

15. Processing/beneficiation facility exists only within the lease hold area to be given, with complete flow sheet. Nothing outside the lease area to be discussed.

#### **PROGRESSIVE MINE CLOSURE PLAN**

16. Mitigation measures of impacts associated with mining i.e. mainly related to air, water, noise, vibration, land, aesthetics etc. to be elaborated.
17. In Para "Risk Assessment", risk analysis of different mining operations and safety management plan needs to be given.

#### **Enclosure:-**

18. Annexure are not properly paged & signed by the qualified person.
19. Some more photographs covering ML Boundary pillars, mining & allied activities and environmental protection aspects of mine should be enclosed.
20. Copy of supplementary lease deed i.r.o. extension of lease up to 31.03.2030 to be enclosed.
- Plates:**
21. DGPS plan/lease area map to be submitted.
22. Forest area (already cleared area, area in process), Non Forest area, Surface right acquired area etc. should be marked clearly over a separate Lease Map/Plan & Surface plan.
23. All plans to be prepared based on recent and accurate survey and to be correct as per existing surface features & mine profile. All Stocks/Dumps of Waste, Sub-grade, fines, mineral rejects, processed ore etc. should be shown over the plan and given in text vis-à-vis that is actually available on the site. Such plans should be prepared and certified by the certified Surveyor; and surveyor certificate should be enclosed with the document.
24. Reserve & resources should be estimated and categorized strictly as per UNFC guideline and different UNFC code of resource/reserve should be indicated over geological plan & section.
25. A composite development/excavation plan depicting proposed excavation of all years to be given.
26. Environment Plan: All existing surface features beyond the 60m of lease boundary to be shown in detail. Monitoring stations at the strategic points in core & Buffer zone for different environmental components should also be shown over this plan.
27. As per guideline of "IBM manual on appraisal of Mining Plan-2014", a Reclamation Plan to be submitted.

ANNEXURE-J  
Scrutiny comments on examination of Modification of Scheme of Mining of KATAMATI Iron Ore Mine over 403.3238 ha. in Keonjhar District of Odisha state of M/s TATA STEEL Ltd.

Text:

**GENERAL**

1. Lessee is a company. Hence, all certificates, undertakings, consent letter etc. to be signed by the nominated owner of the mine only.
2. A latest list of board of directors duly certified by competent authority along with address/contact nos. to be enclosed. Also, Undertaking regarding working in other firms/company/organization from board of directors should be given.
3. CCOM circular no.2/2010 and its addendum regarding geo-reference mining lease map and ML boundary pillars to be implemented.
4. Para3.6: Justification given for this modification of approved SOM is not described properly in terms of Rule 9 of MCDR, 1988.
5. Activities related to this lease hold area only to be described in this document. Nothing outside the lease area and of another lease to be discussed.

**GEOLOGY AND RESERVE**

6. Earlier exploration carried out so far in the lease area should be summarized as per table below:

Item of information	Lease area explored as per UNFC norms (in Ha) as on dt. ....					Remarks/Comments including reasons for not carrying out the exploration as per UNFC norms.
	<b>Total Lease area = A+B+C+D+E</b>					
	G1 Level	G2 Level	G3 Level	Explored and found non-mineralized with level of exploration (Remarks)	Unexplored lease area	
Area as per level of exploration	A	B	C	D	E	
No. of BH Drilled						
No. of BH considered for Resource Estimation.						
Meterage Drilled						
Grid Interval						
Scale of Mapping						
<b>Reserve estimated after above exploration as on date.....</b>						
<b>Remaining Resource after above exploration as on date.....</b>						
<b>Total Reserver/Resource after above exploration as on date.....</b>						

7. Up-dation/estimation of total reserve and resource should be carried out as on dt. 01.04.2016. Given Reserves/resources is of dt. 01.04.2015. Further, Reserves/resources should be estimated both in slice plan method and cross-sectional method and variance, if any, to be analyzed.
8. Reserve & resources should be updated/estimated and categorized strictly as per UNFC guideline.
9. Documentary proof for bulk density considered for reserve estimation should be submitted. It should be from NABL accredited lab. or Govt. lab.

भारत सरकार  
खान मंत्रालय  
भारतीय खान ब्यूरो  
क्षेत्रीय खान नियंत्रक का कार्यालय  
No. MSM/FM/04-OR/IBHU/2016-17

Plot No. 149, Pokhariput  
Bhubaneswar – 751 020  
Date: 01.08.2016

To

Shri M C Thomas, Power of Attorney Holder,  
M/s Tata Steel Ltd,  
P.o- Nuamundi, Dist- Singhbhum West,  
Jharkhand- 833217

Sub: Approval of modification of approved Scheme of Mining of Katamati Iron Mine along with Progressive Mine Closure Plan (PMCP), over an area of 403.3238 ha in Keonjhar district of Odisha State, submitted by M/s Tata Steel Ltd under Rule 10 of MCDR, 1988.

Ref: - i) Your letter No. GM/PL/223 dated 17.06.2016.  
ii) This office letter of even no. dated 27.06.2016.

Sir,

This has reference to the letter cited above on the subject. The draft modification of approved Scheme of Mining has been examined in this office based on site inspection carried out by Shri Prem Prakash, Deputy Controller of Mines on 06.07.2016. The deficiencies observed are enclosed herewith as Annexure I.

You are advised to carry out the necessary modifications in the draft modification of approved Scheme of Mining 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 should be submitted in Auto CAD compatible format or JPG format in resolution of 100x100 pixels on same CD )** with financial assurance under Rule 23 F of MCDR 1988 of the Modification of Approved Scheme of Mining 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 approved Scheme of Mining 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 approved Scheme of Mining. It may be noted that no extension of time in this regard will be entertained and the modification of approved Scheme of Mining 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,

  
(M/BISWAS)

क्षेत्रीय खान नियंत्रक / Regional controller of Mines