

**SCRUTINY COMMENTS ON DRAFT REVIEW OF MINING PLAN IN RESPECT OF GHATKURI IRON ORE MINE (149.7343 HA) OF M/S NIRMAL KUMAR PRADEEP KUMAR IN GHATKURI AND KARAMPADA RESERVE FOREST DISTRICT WEST SINGBHUM JHARKHAND.**

**A. TEXT:**

1. On the cover page (a) instead of Modification and Review of the mining plan only 'Review of the Mining plan' may be written. (b) Instead of only forest area Reserve forest may be written for the type of the land.(c) The breakup of area of Karampada RF Block no 15 and area of Ghatkuri RF Block no 10 may be given. The present status of mine, whether running/discontinuance etc., should be mentioned.
2. In the text instead of Mining scheme period 'Review of Mining plan may be written.
3. Xerox copy of M.Sc. Geology certificate of Sri Pradeep Mahapatra, Qualified Person not enclosed
4. ID Proof of the Nominated Owner has expired on 2015, Valid ID proof may be given
5. Page 55, Development During (2018-19): The gradient of haul road should be maintained at 1:16 and not on 1:12
6. Page 60, 62: The Production during 2019-20 should be only 10 million Tonne instead of 10000020MT.
7. Page 63:(a) Table showing quarry position at the end of 2019-20: Instead of zone A,B,C name of pit nos. may be given.(b) Instead of dimension at the end of 2017-18, Dimension at the end of 2019-20 may be given.
8. Page 63: In-situ Tentative Excavation:(a) Instead of waste/Ore Ratio, ROM/Waste Ratio may be given as per universal format.(b) Instead of zone A,B,C name of pit nos. may be given. (c) Instead of Waste, OB/SB/IB may be written as per universal format.
9. Page 63, Page 74, Page 75:(a) In situ Tentative Excavation table, The total production of mineral reject has been given as 6024306MT but on page no 75 It has been given as 5662848MT it may be reconciled(b) The Production for 2019-20 should be 10 million Tonne instead of 10000020MT.(c) In page no 63 The mineral reject for 2018-19 and 2019-20 has been given as 2024297MT and 4000008MT respectively but on page 75 it has been given as 1902839MT and 3760008MT respectively. It may be reconciled. Production of ROM (Ore+Mineral reject) for 2018-19 and 2019-20 should be 5 Million tonne and 10 Million Tonne including the sub-grade mineral.
10. As per item no 36 of TOR Dt.20.06.2013 measures of Socio economic significance and influence to local community proposed to be provided by the Project Proponent should be indicated. As far as, possible quantitative dimensions may be given with time frame for implementation. It should be given in the Feasibility report in item no 10.0 others like Tribal Affairs.
11. Annexure XXIV: Consent To Operate should be valid upto 31/03/2019 for 5million Te and upto 31/03/2020 for 10million te capacity may be given.
12. Boundary Pillars should be as per specification given in Rule 12(v) of MCR 2016 and its photograph may be attached.
13. Page 74: (a) Unit of 40% Waste may be given in cum. (b) The site for dumping 588051 cum waste has not been specified and shown in the Development Plan (Plate no. VIIA & VIIB).
14. Page 75: Manpower: (a) Break-up of Number of local employees specially Managers and Supervisory Personnel and for Skilled and Semi skilled Person may be given.(b) Number of local employees in additional 133 Personnel may be given.
15. Financial Assurance of Rs. 14209200/- (One Crore Forty two Lakh Nine Thousand two Hundred only) valid upto 31/03/2020 may be submitted.

16. Consent Letter/ Declaration / Certificate /Undertaking have not been dated.
17. In case of Individual, an undertaking that he is not working in any other organization/ Firm/Company has not been given.
18. DGPS Report has not been enclosed as Annexure.
19. All the analysis report of Air, Water & Noise annexed are very old. Recent analysis reports should be enclosed.
20. The party has not yet carried out any noise & vibration data study to achieve the targeted production. The same should be carried out at Institute of repute and be annexed with the document.
21. Daily water requirement for suppression of dust, water spraying etc. to be mentioned and its source to be mentioned.

#### **B. PLATES:**

1. CCOM's Circular No. 2/10 has not been compiled. Satellite imagery derived from merging of Cartosat-2 and LISS-IV (Scale 1:5000) covering an area of 500m from the lease boundary has not been enclosed.
2. Key Plan, Plate No.1:
  - a) **Flow direction of Karo river has not been shown.**
3. Surface Plan (Plate no. IV):- (a) Odisha State Boundary has not been shown.
4. Development Plan (Plate No. VIIA & VIIB): (a) Dump area has not been shown. (b) Proposed Office & infrastructure, proposed workshop, Weigh Bridge have not been shown.(c) Proposed road upto the Processing unit not shown.
5. Dump Plan & Section (Plate no. VIII) The dump plan w.r.to the development Plan (Plate No. VIIA & VIIB) is not clear.
6. Environment Plan (Plate no. IX ) :- (a) Quarry no. 10 of adjoining Baraiburu- Tatiba Iron Ore Mine of M/s Rameshwar Jute Mill has wrongly been shown.(b) Proposed dump area not shown, though indexed.(c) Proposed road upto the processing unit has not been shown. The public road out side the lease to be shown.
7. Reclamation Plan (Plate No. X ) ;(a) Number of Plantation to be done year wise may also be given.(b) Proposed Office & infrastructure, proposed workshop, Weigh Bridge have not been shown.

#### **C. (GEOLOGY PART):**

1. COVER PAGE: The document should be "Review of Mining Plan" and not "Modification and Review of Mining Plan", submitted under Rule 17(2) of Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession Rules, 2016". On the cover page, the area has been mentioned as 149.7343 Ha, whereas the DGPS surveyed lease map, Plate no. III (B) shows an area of 150.160 Ha thus there is a difference of 0.4257 Ha, which may be reconciled.
2. All the submitted plans/statutory plans should bear type of land along with forest block/ compartment no.
3. Lease map: (i) In the DGPS surveyed lease map [Plate no. III(A) & III(B)], two sets of boundary pillars have been shown. One from 1101 to 1158, which are in clockwise direction as per norm and the other from A-D, which are in anticlockwise direction. The numbering of pillars from A-D, need to be corrected.  
(ii) The DGPS survey report should also be enclosed along with the document.

(iii) As per Rule-35(2) of MCDR, 2017, high resolution satellite images obtained from CARTOSAT-2 satellite LISS-IV sensor on the scale of cadastral map, covering the mining lease and an area of two Kilometers from the lease boundary, should be submitted along with the document.

(iv) In the DGPS surveyed lease map (Plate no. IIIA & IIIB), the boundary pillar co-ordinates of Karampada Iron ore Mine have been furnished. The sub-zone of UTM 45 should also be mentioned. In both the plates, UTM grid should be given instead of lat/long grid.

4. An Area plan is also required to be submitted showing type of land and the access route to the area under reference with approach to major locations on either end of the road.

5. In the Broken up area Plan (Plate no. II(B), the water flow direction has not been shown.

6. Environmental clearance (Annexure-X): In the third para it has been mentioned that an area of 8.24 Ha of non-forest land outside lease area will be used for dumping of waste. Neither any details of the same nor any plan of the referred area has been submitted along with the document.

7. INTRODUCTORY NOTE: Under Grant of Mining lease, its renewal and status as on date: The supporting document in favour of lease granted to Ratan lal Surajmall should also be incorporated. Under the details of leases held by lessee, the Ghatkuri Iron ore Mine (149.7343 Ha) has been shown as active. During field verification the same was found to be non-operative since 27.07.2013. The last para may be brought in the first para to highlight the the main issue.

8. Chapter-1.0 (GENERAL): (b) Status of the lessee: In Annexure-XII, copy of id proof of Nirmal Kumar needs also to be incorporated.

(f) Name of Recognized person: The educational qualification certificate i.r.o Sri Pradeept Mohapatra has not been incorporated in Annexure-XIII.

9. Chapter-2.0 (LOCATION & ACCESSIBILITY): (a) Lease details- The Lat/Long given for which Boundary Pillar has not been furnished. If the Lat/Long given for entire lease area then, it should be mentioned. As per guideline, the Lat/Long for any boundary point can be given under the para. The date of execution of lease needs to be reconciled properly. Nothing has been mentioned about postal address, telephone no., fax, e-mail id, mobile no. of lease holder.

(b) Details of applied/lease area- The para should be recasted as per guideline since the existence of public road/railway line if any in the proximity, topo sheet no. with lat/long of all boundary pillars have not been furnished under the para.

(c) General Location Map- Key Plan: (i) The NE part of lease area has not been shown distinctly. The entire lease area should be marked clearly with deep red colour.

(ii) The new Topo Sheet no. in open series should also be mentioned on the Key Plan as well as in the Para.

(iii) The pre-dominant wind direction should be shown clearly on the Key plan.

(iv) The location of area w.r.t Lat/Long should also be given on the Key Plan.

(v) The location of adjoining leases should be shown clearly on the plan and it should be properly indexed.

(vi) No railway track has been shown on the Key Plan.

(vii) Atleast two co-ordinates each for Lat & Long should be given on the Key Plan for better understanding of location of the lease area.

(viii) A nala exists on the NE part of lease area as shown in Plate no. II(B) (Broken up area plan), but no water sampling station has been marked on the Key Plan.

10. Chapter 3.0, DETAILS OF APPROVED MINING PLAN: (i) Para 3.4, Review of violation pointed out, the table submitted under para 3.4.1 should be reconciled properly with Annexure-XIV. Page no. may be given in annexure-XIV such as XIV.1, XIV.2, XIV.3 etc. Instead of "date compliance", it should be given as "date of reply" in both the tables on page no. 9 and 10.

(ii) Para no. 3.5, details of any suspension: The para should be reconciled properly in light of Annexure-XIV and tables given.

11. CHAPTER-I: Para no. 1.0 (GEOLOGY & EXPLORATION): (a) Topography, Drainage pattern, vegetation etc.: (i) Topography- The Min. elevation mentioned on the NE part of lease area needs to be reconciled from the submitted Surface Plan(Plate no. IV). The same needs also to be corrected in para 1.0(c) under “Detail description of Geology of lease area”.
- (ii) Drainage- The water body shown to flow along the NE part of lease area (Surface Plan) has not been mentioned under the para.
- (iii) Vegetation- The local name of the species found within the lease area should also be given in the table.
- (iv) Climate: The Max. & Min. temp. of Summer and Winter season should be given along with the month involved. Recent rainfall data should be incorporated.
- (b) REGIONAL GEOLOGY: The GSI bulletin no. and date be given as reference for Regional stratigraphic succession. The given stratigraphic succession on page no. 13 should be reconciled properly and it should be given correctly. The “Politic Schist”, given under OMG, may be explained.
- (c) DETAILED DESCRIPTION OF GEOLOGY OF LEASE AREA: In local succession of the area, “Hematite band” and Banded Hematite” has been shown. The same may be corrected as both are same formation. Since Quartzite and Phyllite are separate formations, it need to be shown separately. The description of geology of lease area has been given very briefly. The different litho formation encountered in the area should be described separately with its nature of occurrence and disposition. Nothing has been mentioned about Limonite, which occurs as pockets in some quarries e.g “Bottom Pit”. The size of three zones (A, B & C) given on page no. 15 should be reconciled properly with the Geological Plan (Plate no. V). The dimension should be taken at its maximum length & width and not on average or Minimum range.
- (d) NAME OF EXPLORATION AGENCY: The details of exploration agency, as required in the guideline, has not been given.
- (e) DETAILS OF PROSPECTING: (i) No. of Pits/Trenches: The no. of pits given in the area needs also to be mentioned.
- (ii) No. of BHs: The details of BHs given in the table on page no. 17, should be reconciled properly with the Annexure-XVI (Geological log sheet) w.r.t depth of hole drilled, collar RL of the BH etc. The Geological log sheet and Sample record sheet i.r.o GBH-17/4 & GBH-17/11 have not been incorporated. The type of BH given should also be mentioned clearly whether it is Coring or Non-Coring type. The total meterage drilled along with Min. and Max depth drilled need also to be mentioned under the para.
- (iii) Sampling: iii.1. The Borehole sample analysis report from NABL accredited laboratory or Govt. laboratory, have not been submitted.
- iii. 2. Nothing has been mentioned about 17 nos. sample analysis in the para. Out of 17 nos. sample analysis report submitted, except 02 rest other analysis reports are illegible. The sample analysis report do not speak about type of sample drawn and location of sample drawn. The sampling location should also be marked on the Geological Plan (Plate no. V).
- iii.3. The NABL accreditation certificate i.r.o SGS has not been submitted.
- (iv) Expenditure incurred in prospecting: The rate of drilling per meter should be furnished.
- (f) SURFACE PLAN (Plate no. IV): (i) 50m barrier on either side of HT line has not been shown. Further, 10 m barrier on either side of PWD and Forest road should also be shown. These should be shown in all the statutory plans submitted along with the document.
- (ii) All the BHs marked on the plan should be supported with collar RL of the BH.
- (iii) On the Southern part of lease, within Lucky Pit, BH-6 Has been marked. Whether BH-6 is an existing BH or proposed may be clarified.
- (iv) The top RL should be shown on existing dumps.
- (v) Within the broken area of Tiger Pit-A, no quarry face has been shown.

(vi) The reason for taking broken area on the NE part of Bottom Pit, beyond the quarry limit, may be explained. The forest clearance area map for 13.96 Ha may also be submitted separately along with the surface plan.

(vii) The sampling station need not be shown on the Surface Plan.

(g) GEOLOGICAL PLAN (Plate no.4): (i) Item no. (i) to (v) of Surface Plan should be taken into account in Geological Plan also.

(ii) The sampling station shown on the Northern part of lease should be numbered.

(iii) The line of 333 zone shown on the Northern part of lease, should be at par with the Index. No litho formation has been shown within the zone, the same may be rectified.

(iv) The lat/long location of proposed bore hole need also to be incorporated in the table on page no. 19 & 20.

(v) The UNFC code 121 has been assigned as Proved zone, needs to be corrected.

(vi) The basis for considering entire area under 333 category needs to be explained with justification.

(vii) The basis for converting Inferred Mineral Resource (333) to Pre-Feasibility Mineral Resource (221 & 222) needs to be explained with justification.

(viii) Within the UPL of Bottom Pit, Tiger Pit and between grid 328300E-328400E and 2448500N-2448700N, the 333 zone has been marked. The same should be reconciled properly.

(ix) The symbol used in the Index of the plan and that on the plan should be carefully reconciled.

(x) Shale has been marked on the Southern portion of lease. Whether it Ferruginous or not should be spelt in the Index.

(xi) Occurrence of Phyllite has been made in para 1.0.(c) in Chapter-1 but the same has not been shown in the plan.

(xii) The trend of iron ore body along with other litho units have not been marked on the plan.

(h) GEOLOGICAL SECTION (Plate no. 5): (i) Every Sections should be reconciled properly with the plan. The iron ore exposure has been shown on some of the sections e.g 2448100N, 2448150N etc. while the same has not been shown on the plan. The same may be reconciled.

(ii) In all sections across float ore zone, the basis for considered thickness of float ore should be explained when there is no exploration data.

(iii) The sampling stations have not been marked on the sections.

(iv) The proposed BHs should be marked on the sections along with location of all surface features viz. quarry, dump, nala etc. The top and bottom RL of every surface features should be given.

(v) No dump section has been incorporated.

(vi) UNFC code for area considered for different categories of reserve/resource estimation should also be marked on the geological sections properly.

(i) FUTURE EXPLORATION PROGRAMME: The year wise proposed exploration schedule be supplemented with location of BHs (Lat/Long) and size of core to be used. The grid pattern to be followed and total meterage to be drilled should also mentioned in the para. In this regard the jist of proposed exploration may also be given in tabular form, as per proforma given in the guideline, just below the main table, The BH samples should be analyzed from NABL accredited laboratory.

(j & k) RESERVE & RESOURCE AS PER UNFC: (i) Reserve/Resource of in-situ and float ore zone should be given separately. The remaining reserve within the broken area needs also to be furnished. Thus reserve/resource figure (in MT) shall be furnished as per following table:-

Type of assessment	Broken area		Grade%	Remaining areas		Grade%	Threshold value
	In-situ	Float		In-situ	Float		
Reserve(111, 121 & 122 separately)							
Remaining Resource(211, 221, 222, 331, 332, 333 & 334 separately)							

- (ii) The parameters adopted (thickness, bulk density, recovery% etc. of ore zone) for calculation of reserve/resource of in-situ & float ore should be given separately.
- (iii) The reserve/resource as per UNFC w.r.t threshold value (both for in-situ and float ore) has not been furnished in tabular form.
- (iv) The 331 and 332 zones have not been shown on the Geological Plan (Plate no. V) but the same has been shown under (a) In-situ ore zone of Zone-A, B & C under “Updated Reserves established, category wise” on page no. 24-30. This needs to be explained properly with justification.
- (v) The basis for considering 5m thickness of float ore should be discussed in the para.
- (vi) The length of influence considered should be reconciled properly with the geological plan as some of the length of influence considered do not match with the section line shown on the geological plan.
- (vii) The determination of Bulk Density (BD) and Recovery factor should be based on field test (Ref. para 4.1.4.1(ii) of chapter-4 of IBM manual for appraisal of Mining Plan) and not on reference basis. The calculation for these two factors should also be incorporated in the relevant para of the text.
- (viii) What constitutes Mineral Reject & Waste, should be spelt clearly. Further, the chemical analysis of both the materials also need to be incorporated.

(1) MINERAL RESERVE/RESOURCE: (i) Mineral resource may be estimated purely based on level of exploration w.r.t threshold value. The information in this context should be given as per format given below:

Level of exploration (G1, G2, G3 & G4)	Area covered under exploration (Ha)	Mineral Resource assessed
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- (ii) The final reserve/resource figure should be given under this para as per guideline.
- (iii) The finalization of reserve/resource calculation part is subject to verification of Auto Cad file (soft copy).

12. Mining: Part-A, Chapter-2.0: As per Annexure-VIII, forest clearance is available for 13.96Ha. The land requirement for present development (2018-19&2019-20) should be spelt clearly. Further, for proposed land requirement, whether forest clearance has been obtained or not, should also be submitted with supporting document.

13. General: (i) All tables and annexures should be properly numbered.  
(ii) All Plans should bear UTM grid and BP co-ordinates.

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