

SCRUTINY COMMENTS ON EXAMINATION OF MODIFICATION IN APPROVED MINING PLAN FOR AMTIPANI BAUXITE MINE OF SHRI GANDHARVA ORAON, OVER AN EXTENT OF 50.854 HECTARES, LOCATED IN PAKHAR VILLAGE, UNDER KISKO P.S OF LOHARDAGA DISTRICT OF JHARKHAND STATE, SUBMITTED UNDER RULE 22(6) OF MCR, 1960.

(1) The DGPS surveyed map/plan submitted showing UTM data instead of GPS data in compliance to CCOMs circular No.2/2010 and its addendum dated 21.09.2011 & 11.06.2014 regarding geo-reference cadastral map has not been submitted. Moreover, the undertaking submitted in compliance to the CCOM's circular No. 2/2010 is not acceptable at present.

(2) The copy of the approval letter of the mining plan, dated 21.06.2013 has been enclosed as annexure-1 but the copies of the approval letters of the mining plan/scheme of mining approved in different occasions prior to the approval of aforesaid mining plan may also be submitted for more informative.

(3) The photo copy of lease deed has been enclosed as annexure-2, but the lease map attached to the lease deed is missing, which should be submitted.

(4) A copy of the letter for surrender of Jungle Jhari area has been enclosed as annexure-6 but the ~~MCP~~ MCP for the surrendered area has not been submitted, which should be done, while submitting modified copies of the present document.

(5) The photo copy of Affidavit for declaration as legal representative has been enclosed as annexure-8, instead a legal heir certificate in favour of applicant should be submitted for clarity.

(6) Litho logs for the already drilled boreholes are enclosed as annexure-11 but the holes are coring or non-coring type has not been mentioned. Besides, it is not known when such holes were drilled. Moreover, no photograph of the borehole logs has been submitted. In the light of the above, the annexure should be revised suitably.

(7) The borehole-analysis report from TCRC has been enclosed as annexure-12 but the date of analysis is missing in the report, thereby the report is not acceptable in its present form without date.

(8) The proved reserves for bauxite and laterite around the drilled boreholes & existing quarries are computed & enclosed as annexure-13 but the laterite is a minor mineral and no reserves/resources for the same is required in the calculation sheet of the aforesaid annexure. Besides, the reserves/resources for bauxite have been calculated in the area method, instead the same may be computed by cross sectional area method considering the length of influence and depth of bauxite occurrence in the existing quarries/boreholes for clarity.

(9) The progressive mine closure particulars has been enclosed as 2<sup>nd</sup> sheet to the annexure-13 but the existing & proposed dimension of the quarries, size/capacity of the dumps are missing, which should be furnished for more informative.

(10) The excavation planning for the period from 2015-16 to 2019-20 has been computed & enclosed as annexure-14 but the length & width of benches proposed in topsoil; morrum & bauxite has not been furnished, which may be mentioned. Besides, the location co-ordinates & the cross sections considered for the purpose are also missing, which should be furnished by adding more columns in the tabular annexure. Moreover, the recovery of bauxite ore is considered as 80% but the basis on which such recovery is considered should be justified with valid reasons. So, also the grade of the recoverable bauxite may be furnished supported by authenticated chemical analysis report. Likewise, the waste generation is indicated to be 20% but the basis for such generation has been considered also not mentioned, which should be furnished indicating the grade of such waste material. Accordingly,

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necessary corrections/modifications may also be made in connected paras in the text & relevant plates. Again, it is found that, the excavation planning proposed in the last approved mining plan for the years 2012-13 to 2014-15 has been re-produced against the financial years 2015-16 to 2017-18, which indicates the gross negligence in the part of RQP and such practices should be stopped in future.

(11) An agreement has been made with 2<sup>nd</sup> party M/s Hiralal Agencies Pvt. Ltd., for carrying out blasting operations in the mine and a copy of the agreement has been enclosed as annexure-15 but the copy of the explosive procurement license issued by the competent authority in favour of the 2<sup>nd</sup> party has not been enclosed, which should be submitted. Besides, a copy of the blasters license issued by the competent authority for carrying out blasting operations may also be submitted.

(12) A copy of TOR has been enclosed as annexure-16; instead a copy of the MoEF clearance should be submitted.

(13) Few photographs in support of working quarry, backfilling, existing waste dump & boundary pillars has been enclosed as annexure-17 but the name of the quarries & their location co-ordinates, name & location co-ordinates of the existing dump and location co-ordinates of the backfilled area have not given, which should be furnished. Besides, no photographs in support of existing exploration, afforestation & rehabilitation have been enclosed and the same should also be submitted for ease in monitoring.

(14) The ambient air quality analysis report and ground water analysis report in respect of Pakhar Bauxite mine of bauxite mine has been enclosed as annexure-18 but the name of the owner has not been indicated in the report. Moreover, the reports are very old, analysed on 20.03.2013, which is not acceptable, thereby a fresh & latest report should be submitted replacing the enclosed one for clarity. Besides, the flue gas, effluent, soil, surface water, noise level monitoring reports may also be submitted for ease in monitoring.

(15) A feasibility report of the mine has not been enclosed along with document and the same should be submitted for ease in monitoring.

(16) The chemical analysis report in support of grade of the bauxite has not been enclosed as annexure to the document. Therefore, a chemical analysis report in support of the grade of bauxite is required to be obtained either from Govt. Laboratory or from NABL accredited laboratory and enclose along with the modification document to ascertain the grade of the bauxite ore.

(17) A valid consent to operate the mine from JHSPCB has not been enclosed, which should be submitted.

(18) A copy of the valid Bank Guarantee matching to the ensuing modification period of five years has not been enclosed and the same should be submitted.

(19) In case of individual or partner, a declaration/affidavit should be submitted to know whether he is working in other firms/company/organization etc.

(20) In 2<sup>nd</sup> para of introduction chapter, the mining lease area has been revised on the basis of letter received from Circle Officer, Kisko, which is not acceptable, unless it is permitted by the State Govt. of Jharkhand. Therefore, necessary incorporations/modifications may be made accordingly.

(21) On examination of Form-J enclosed as annexure-10, it is found that, the lease renewal application has been filed for the entire leased out area of 50.906ha, whereas, the modification document has been

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submitted over an extent of 50.854ha but no FMCP for the surrender area has been submitted to IBM, Ranch so far. Likewise, the mining plan was approved for lease renewal, over an extent of 50.906ha as per the enclosed annexure-1, whereas, modification document has been submitted over an extent of 50.854ha without submission of the FMCP. Therefore, necessary incorporations/modifications may be made in the document for ease in monitoring.

(22) In item No. (e) of chapter-I, it is intended to mined out bauxite & laterite but the mineral laterite is a minor mineral and IBM has no authority to approve the excavation proposal for laterite. Therefore, the para may be revised accordingly.

(23) In para (a) of chapter-II, the postal PIN code is missing in the mine address, which should be furnished. Besides, the phone/fax/e-mail if any may also be indicated. Moreover, the validity of lease period furnished in the para under reference should be checked and corrected.

(24) The developmental activities proposed & achievements status thereof during each year of the last approved mining plan period has not been given, which should be furnished indicating the location co-ordinates/cross sections considered/name of the quarry(s) involved and reasons for deviation if any for ease in monitoring. [Para 3.3(ii)]

(25) Under the heading Exploitation, the proposed & achievements status thereof during each year of the last approved mining plan period has not been given, which should be furnished indicating the location co-ordinates/cross sections considered/name of the quarry(s) involved and reasons for deviation if any for ease in monitoring. Besides, the proposed & actual method of mining/categorisation may also be furnished for more informative. Rest of the things should be erased. [Para 3.3(iii)]

(26) Under the heading Reclamation, the proposed status of reclamation has not been clearly indicated and the para may be revised indicating the name of the quarry involved along with its location co-ordinates & quantity of waste materials required for the purpose. All should be presented in tabular form. [Para 3.3 (iv)]

(25) The meteorological data for January to December has been furnished in tabular form but the information/data pertains to which calendar year has not been specified, which should be updated accordingly. (Page No.12)

(26) The rainfall data for January to December has been furnished in tabular form but the information/data pertains to which calendar year has not been specified, which should be updated accordingly. (Page No.13)

(27) The dimension of all the existing quarries available in the lease area have been furnished but the working/non-working status for the same has not been given, which should be furnished. Besides, status of 31 nos. of trial pits have been given but no photographs in support of such trial pits has been submitted, which should be enclosed for more informative. [Para 1.0(e)]

(28) Under the heading Sampling & analysis, there is a mention that, the samples have been collected from quarries & analysed for its suitability but the manner in which the samples are collected and analysed has not been clearly indicated, which should be discussed and the para may be revised accordingly. (Page No.16)

(29) The analytical result of bauxite samples has been furnished in tabular form but an authenticated chemical analysis report in support of the same has not been enclosed along with the document. (Page No.17)

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(30) There are 12 nos. of boreholes are proposed to be drilled during the year 2017-18 but the location co-ordinates of such holes are missing, which should be furnished indicating the coring/non-coring status of such holes for ease in monitoring. [Para 1.0(i)]

(31) The existing method of mining is stated to be by fully mechanised method but the details of the same has not been given as per the heading of the para, which should be discussed. Besides, the existing status of dump, reclamation & rehabilitation etc. may also be furnished. In addition to the above, the proposed method of mining furnished in the para under reference may also be revised by furnishing the proposed bench formation status both in overburden & in ore zone, dumping, reclamation & rehabilitation etc. for clarity. If the existing quarries are proposed to be developed /extended, the same may also be mentioned. If the proposed workings are in the virgin area, the reasons for the same may also be furnished with valid reasons. In the light of the above, the para may be revised. [Para 2.0(A)(a)]

(32) Under the heading **Proposed Mining Method**, nothing has been given about the bench formation status in soil, morrum and/or overburden and bauxite ore zone. Besides, the height, width & length of individual benches may also be furnished indicating the bench specifications/parameters for more informative. (Page No.22)

(33) Under the heading **Bench Design and Formation**, a mention has been made that, the face width will vary in each year, which should be specified indicating the reasons for such variation for clarity. (Page No. 23)

(34) (i) Under the heading **Insitu Tentative Excavation**, the proposed status of overburden removal, generation of waste & production target for the period from 2015-16 to 2019-20 has been furnished in tabular form but the bench/RL of the excavation planning has not been given, which should also be furnished by adding one more column in the table. (ii) The recovery percentage of the bauxite & waste generation is missing, which should be furnished. Accordingly, corresponding incorporations /modifications may also be made in connected paras in the text & relevant plates. [Para 2.0(B)(I)]

(35) In the table, the name of the quarries involved in excavation planning for the year 2015-16 has been furnished but the location co-ordinates and cross sections considered for the purpose is missing, which should be mentioned by adding one more column right to the table for ease in monitoring. (Page No. 24)

(36) The name of the quarry(s)/location co-ordinates of the proposed workings should be furnished indicating the direction of advancement of quarry faces. Besides, the tentative dimension of the benches proposed to be made in topsoil/morrum & bauxite ore zone may also be specified. All should be presented in tabular form. In the light of the above, the information furnished in para 2.0(e) may also be revised. [Para 2.0(d)]

(37) The calculations of drilling & blasting have been furnished but OMS & powder factor of the explosives is missing, which should be computed & furnished. (Page No. 29)

(38) The para is meant for conceptual mine planning, whereas, no information regarding the same has been furnished. Therefore, the excavation planning beyond the proposed modification period should be furnished on account of development, production, dumping, reclamation, rehabilitation & afforestation etc. up to the end of the lease period. Besides, it is also found that, the occurrence of bauxite is found below the lairs of topsoil, morrum/overburden but the same has not been discussed in the refer para. Therefore, the factual information about the topsoil, morrum/overburden is required to be furnished

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indicating, the quantities of topsoil, morrum/overburden proposed to be generated by end of the conceptual period supported by calculations for ease in monitoring. [Para 2.0(f)]

(39) The land use pattern after plan period has been furnished in 2<sup>nd</sup> table given in the page under reference; instead the extent of area proposed to be degraded in each year of the ensuing modification period should be furnished in separate tables. Accordingly, corresponding changes may also be made at other places of the document for ease in monitoring. (Page No.39)

(40) Minimum & maximum depth of the water table during monsoon and summer seasons should be furnished. [Para 3.0(a)]

(41) The quality of water encountered in the area is missing, which should be furnished for ease in monitoring. [Para 3.0(c)]

(42) The meteorological data for January to December has been furnished in tabular form but the information/data pertains to which calendar year has not been specified, which should be updated accordingly. (Page No. 42)

(43) The quantities of soil & OB/SB/IB proposed to be generated in each year of the ensuing modification period has been furnished in 2<sup>nd</sup> & 3<sup>rd</sup> column of the 1<sup>st</sup> table given in the para under reference but the location co-ordinates/cross sections considered for the purpose is missing, which should be furnished by adding one more column right to the table. [Para 4.0(a)]

(44) Under the heading **Sub-Grade Mineral**, the proposed generation status of sub-grade materials in each year of the ensuing modification period is missing, which should be computed & furnished and the para may be revised accordingly. [Para 4.0(c)]

(45) Mechanical screening facilities are proposed to be adopted in the mine but the flow sheet for the same is missing, which should be submitted for ease in monitoring. (Para 6.0)

(46) Under the heading **Site Services**, the proposed site services has been furnished but the existing status for the same is missing, which should be furnished. (Para 7.0)

(47) Under the heading **Recreation Facility**, the facilities available to the local people of the surrounding area should be furnished & rest of things should be erased. (Page No. 52)

(48) Quarry wise extent of area proposed to be degraded in each year of the ensuing five year period should be furnished. Besides, quarry wise reclamation, rehabilitation & afforestation for each year of the aforesaid period may also be furnished. All should be furnished in tabular form and rest of the things should be erased. (Para 8.3.1)

(49) Dimension (L x B x D) of the void available for backfilling should be furnished, quarry wise in 3<sup>rd</sup> row of the tables furnished in the pages under reference. (Page No. 56 to 60)

(50) Updated status of bank guarantee should be furnished under the heading **Computation of financial assurance** and necessary corrections may also be made accordingly. (Page No. 62 & 63)

(51) Plate No. 1 (Key Plan): The details of the deficiencies found on the plate are as follows: (i) The index reference given for core zone is suspected to be for lease area, thereby the notation should be changed

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accordingly. (ii) The index reference given for road with double dotted red lines is for village road or for public road has not been specified. If the road is public road, to which important places both end of the road leads to may also be indicated. Besides, the index reference given for footpath is not matching with that of the plan. (iii) Direction of flow of nala is missing on the plan portion of the plate. (iv) The index reference given for forest land with density is not matching with that of the plan. (v) Population of the villages falling within 5km radius of the lease area has also not furnished in the plan portion of the plate. (vi) 25cm long scale also not marked on the plate.

(52) Authenticated Lease Area Plan: (i) The plate has not been named /numbered as per the contents for list of plate. (ii) The plan has been prepared for the reduced lease area, over an extent of 50.854ha, whereas, the original lease is for 50.906ha. Moreover, the surrendered portion of the lease area has not been accepted by the competent authority of State Govt. of Jharkhand. (iii) The round seal of IBM, Ranchi is seen on the top right corner of the map but the last mining plan was approved for the lease area of 50.906ha, which indicates that, the plate is fabricated one and cannot be accepted. (iii) The plan has been signed by Shri Durga Bhagat, the designated legal representative without date but the Assistant Mining Officer, Lohardaga has signed the plate on 08.04.2013 for the reduced lease area i.e. before the approval of the mining plan on 21.06.2013, over an extent of 50.906ha, which also cannot be considered as authenticated lease map, thereby the map should be signed only by the competent authority of State DMG, Jharkhand either for the original lease area or for the reduced area if the part surrender is accepted by the competent authority not by Circle Officer, Kisko.

(53) Plate No.3 (Surface Plan): (i) The excluded area/Jungle Jhari marked both in index as well as on the plan portion of the plate has not been excluded so far as the same has not been accepted by the State Govt. of Jharkhand so far. (ii) Similar index reference has been given both for backfilled area & waste dump, instead separate index reference for both the items should be furnished. (iii) Numbering of few pillars is missing on the plan, which should be furnished and pillar co-ordinates of all such pillars may also be indicated. (iv) The pillar numbers BP-27, BP-28, BP-29 & BP-30 are considered as ground control points, which is not correct. Therefore, atleast three permanent ground control points situated outside the lease area should selected and latitude & longitude of these ground control points may be furnished. Besides, these ground control stations need to be linked with the boundary pillars. (iii) Date of survey of the area is indicated to be on 21.12.2014; thereby updated status of the land degradation as on date of submission of the document should be furnished. (iv) Besides, Surveyors signature is missing on the plate, which should be signed by a competent surveyor. In the light of the above, all other relevant plates may also be revised.

(54) Plate No. 4 (Geological Plan): Index reference given for morrum is not to be seen on the plan. Besides, there are many scattered temporary dumps are marked on the plate but the same has not been named / numbered for their identification. Accordingly, corresponding modifications/ incorporations may also be made on the plates submitted for geological sections.

(55) Plate-5 (Development Plan 2015-16): (i) The temporary existing dumps located within the ultimate pit limit have not been proposed to be re-handled, during the ensuing five year period, which should be done. (ii) Fresh dumps for topsoil, laterite & waste materials has been proposed in the locations, where barrenness of the area has not been proved so far. Moreover, exploration in the form of boreholes has been proposed during the year 2017-18, thereby the location of the dumps should be proposed in the location, which has been proved to be non-mineralised. (iii) Besides, the dump sections for proposed

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topsoil dump, laterite dump & waste dump are missing ,which should be drawn. Accordingly necessary incorporation/modifications may also be made in plate submitted showing the development plan & sections for the years 2016-17 to 2019-20 and other relevant plates submitted along with the document. The relevant portion in the text part of the document may also be revised suitably.

(56) Plate-6(Development Plan 2016-17): The laterite proposed to be generated has been utilised for backfilling,which is not permitted, instead the same should be stacked separately.Accordingly necessary modifications may also be made on other relevant plates submitted along with the document.

(57) Plate-12 (Conceptual Plan): Even after the conceptual period, certain portion of the land has been kept untouched, which is not permitted, thereby the plate may be revised accordingly.

## **GEOLOGY PART**

1. Lease area varies at places like on front page 7 Introduction -50.854, EC-50.906 & Lease deed - 50.6464 may be reconciled. Lease has been granted for Bauxite and laterite. Laterite becoming minor mineral it has to be staked and utilised after mining as per mining plan approved by the State government. Accordingly corrections at appropriate places may be carried in the present document.
- 2.The DGPS surveyed map/plan in compliance to CCOM circular no 2/2010 and its addendum dated 21.09.2011 & 11.06.2014 regarding geo-reference cadastral map has not been submitted. Undertaking with regards to maintenance of boundary pillars as per GSR no 710(E) dated 8.10.2014 may be enclosed.
- 3a, Explanation may be given as to why plot no 1730 on lease map not found in khasra detail given by Circle officer on 16.07.2012.
- 3b, Latest Authenticated lease map by Competent Authority Showing nature of Government land including Forest Area/Jangal jhari etc. In case of Forest/Jangaljhari NOC from the competent authority may be attached.
- 4.Latest analysis report of all the three quarries and as per guideline at least 10% of total borehole samples analysed from NABL accredited laboratory to be enclosed.
- 5.item 3.4,may be modified.
- 6.Copy of form 'J(drilling of Borehole )' & 'K(Borehole records)' to be enclosed.
- 7.Surface plan surveyed dated 21.12.2014 have been enclosed. Latest surveyed surface plan duly signed by surveyor with date to be enclosed.

### **Geology & Exploration:**

- 8.P-13,Typographical mistakes may be corrected on P-18,22,27,28,Proposed year may be corrected.
  - 9.Item-j,feasibility study report along with financial analysis for economic viability of the deposit as specified under the UNFC guidelines may be incorporated.Area explored under different level of exploration may be also be marked on geological plan.
- Reserve calculation sheet showing borehole and quarry influence and area considered for reserve calculation to be enclosed. Justification of 981768 MT of resource under( 211) may be given.
10. Determination of bulk density and recovery factor based on field test may be furnished.
  - 11.Calculation of powder factor for OB and ore may be furnished.
  13. p-38,Location of Reclamation and rehabilitation proposals do not match with proposed reclamation plan. Moreover ,Year wise reclamation , rehabilitation and afforestation plan have not been marked on reclamation plan.

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14. Latest water and air analysis report from NABL accredited laboratory to be enclosed.
15. EC, Forest clearance and NOC from pollution control board are to be enclosed.
16. Summary of year wise proposal for item no.8.3 table should match with text part of plan period proposals in respect of afforestation, reclamation and rehabilitation.
17. Financial assurance table in text do not match with table in plan.
18. Year wise development and Production year given as 2015-18 but production planning year given as 2012-2015 may be reconciled.

#### PLAN

1. All plan & section should be prepared as per rule 27(1)(ii) of MCDR 1988 with shown a scale of the plan at least twenty five centimeters long and suitably sub-divided as per rule 27 of MCDR 1988.

**2. Plate no.-2. (Area Plan).** Area plan showing plot no.-1730 do not figure in text/lease deed and not authenticated by the competent authority.

**3. Plate no.-3. (Surface plan).** Latest survey map duly signed by surveyor. All Boundary pillars should have been numbered clockwise with GPS co ordinates. Three GCP co ordinates should have been permanent point not the boundary pillars.

**4. Plate no.-4 & 4. (geological plan & Section) & Development plan and Sections.**

G1&G2 as per UNFC not marked on Geological plan. Dumping has been proposed on mineralised area and proposal has been given for Borehole. Before getting confirmed negative zone by borehole results how it was proposed as dumping site. Site of waste dump as proposed over the area between 500-700N & 0-300E over PBH 6 & 8 may be discussed in detail.

No. of benches in development sections do not match with proposals. Development plans and reclamation plan do not match. Proposals of plantation on backfilled and reclaimed area may be given.

**5. Development plans.** Dump site should be confirmed to be non-mineralised zone before dumping by borehole drilling. Year wise working quarry should match with text. PBH may be shown on sections. 10mts from either side of the quarry may be marked as G1 or further 5 mts may be marked as G2 on all sections. Plans and section do not match.

**All the pages of annexures enclosed with the document should be attested by the RQP.**

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