

SCRUTINY COMMENTS ON EXAMINATION OF MODIFICATION IN THE APPROVED MINING PLAN OF BIMARLA BAUXITE MINE OF M/S MINERALS & MINERALS LTD., OVER AN EXTENT OF 134.37 HECTARES, LOCATED IN VILLAGEBIMARLA, UNDER GHAGHRA P.S OF GUMLA 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 photo copy of the approval letter of mining plan dated 19.11.2008 has been enclosed as annexure-I and on examination of the same it is found that, the mining plan was approved, over an extent of 134.526ha but the present modification in the approved mining plan has been submitted, over an extent of 134.37ha & the reasons for submission of the modification document for reduced area is not known, thereby the mismatch should be reconciled. Moreover, no FMCP for the excluded portion of the lease area has been submitted to IBM for approval so far.

(3) The excavation planning for the period from 2015-16 to 2019-20 has been computed & enclosed as annexure-II but the length, width and number of benches proposed in topsoil, morrum, laterite & bauxite has not been furnished, which may be mentioned. Besides, the cross sections considered for the purpose is 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 for clarity. 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, necessary corrections/modifications may also be made in connected paras in the text relevant plates.

(4) The extract of the minutes of meeting of the board of directors held on 2nd August 2011 resolving Shri I.J. Joshi as Director & nominated owner of Jharkhand mines, in which Shri Joshi has been nominated as Owner of Biharla bauxite mine, over an extent of 134.526ha, whereas, the modification document for Biharla bauxite mine, over an extent of 134.37ha. Therefore, the Board resolution enclosed as annexure-III should be revised accordingly.

(5) The litho logs of the already drilled boreholes have been enclosed as annexure-IV but the boreholes are coring or non-coring type has not been specified. Moreover, no photograph of the borehole logs has been submitted.

(6) The reserves/resources have been calculated by the area method as indicated in annexure-V, considering the existing boreholes only but the status of existing quarries available in the lease area has not been taken into account for the purpose. Therefore, the reserves/resources should be computed by cross sectional method, considering the length of influence and depth of bauxite occurrence in the existing quarries/boreholes for clarity.

(7) As per the enclosed annexure-VII, the environmental clearance has been accorded, over an extent of 134.526ha, whereas, the modification document has been submitted, over an extent of 134.37ha, thereby the mismatch in extent of area should be reconciled.

(8) The photo copy of the bank guarantee valid from 05.02.2014 to 31.03.2019 has been enclosed as annexure-IX but the modification document has been submitted for the period from 2015-16 to 2019-20, thereby a valid bank guarantee matching to the ensuing modification period should be submitted replacing the enclosed one for clarity.

(9) The photo copy of the memorandum & articles of association in favour of M/s Minerals & Minerals Ltd., has been enclosed as annexure-X but the copy of certificate of incorporation in favour of the aforesaid company has not been enclosed, which should be submitted.

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

(11) A letter issued by Deputy Chief Controller of Explosives, Ranch in connection with dropping the construction proposal of magazine has been enclosed as annexure-XIV is uncalled for, which should be detached to avoid confusion.

(12) An agreement has been made with 2nd party i.e. 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-XV but the copy of the explosive procurement license issued by the competent authority in favour of the 2nd party attached to the aforesaid annexure has already expired on 31.03.2008, thereby a valid license for the same should be submitted.

(13) The chemical analysis report in support of the grade of the bauxite, grade of sub-grade and quarry waste from Earth & Environment Laboratory has been enclosed as annexure-XVI but the copy of the NABL accreditation certificate issued in favour of aforesaid Organisation has not been submitted.

(14) The ambient air quality analysis report has been enclosed as annexure-XVII but the surface water analysis, soil analysis and ground water & vibration analysis report has not been enclosed, which should be submitted for ease in monitoring.

(15) Only the photo copy of the violation letter, dated 13.08.2015 & reply thereof has been enclosed as annexure-XIX, instead the copies of violation letters, show-cause notices issued by IBM and compliance status thereof for the last five years should be submitted if any for more informative.

(16) Only three photographs in support of boundary pillars without caption has been enclosed as annexure-XXI but no photographs in support of lease area, existing exploration, working quarry, reclaimed area, dumping & afforestation etc. has been enclosed, which should be submitted for more informative.

(17) The Form J for drilling of 128 nos. of boreholes has been enclosed as annexure –XXIII but the Form K showing the actual drilling status of the boreholes has not been enclosed, which should be submitted.

(18) Even if the extracts of resolution of the Board of Directors is enclosed as annexure-III, the list of board of directors has not been enclosed and the same should be submitted along with their full postal address & phone/fax/e-mail id for more informative.

(19) The photo ID of the applicant with address proof has not been enclosed and the same should be submitted for clarity.

(20) The feasibility report of the mine has not been enclosed as annexure to the document, which should be submitted as per the statute.

(21) In 1st para of the introduction chapter, a mention has been made about the approval status of mining plan but nothing has been given about the validity status of lease period, instead the lease has been considered as extended upto 17.07.2059, which appears to be not correct. Therefore, the para may be revised suitably.

(22) In 2nd column 1st row of the table furnished under the heading summary of mine details, the lease period has been extended for further 50 years from the date of expiry, which is not correct; instead the 50 year lease period should be counted from the fresh grant of the mining lease. Therefore, the validity of extended lease period should be revised accordingly.

(23) The postal PIN code of the mine address, given in the para under reference is missing, which should be furnished. Besides, the phone/fax & E-mail ID if any may also be indicated for more informative. [Chapter-II (a)]

(24) In para (a) of chapter-II, the lease period for fresh grant of mining lease should be extended upto 50 year but not from the date of expiry of the lease. Therefore, the para may be corrected accordingly.

(25) The validity of the mining plan is indicated to be from the date of commencement of the mining operations, which is not true, instead the mining plan is valid from the date of execution of the lease deed. Therefore, the information furnished in last column of the table given in the para under reference should be revised accordingly. (Para 3.1)

(26) Under the heading of the para 3.3, a mention has been made **Not Applicable as the mine was not in operation**, which is not correct, thereby the actual achievement status on account of exploration, development, production, reclamation, rehabilitation and afforestation etc. from the date of execution of the lease deed should be furnished against the proposals given in the approved mining plan for ease in monitoring. (Para 3.3)

(27) The meteorological data for January to December for the year 2013 has been furnished in tabular form; instead the latest available data should be furnished for more informative. (Page No. 8)

(28) The average rainfall data for January to December for the last 10 years has been furnished in tabular form but the information/data pertains to which calendar years have not been specified, which should be updated for ease in monitoring. (Page No.9)

(29) Under the heading of the para, **local geology** of the unspecified area has been furnished, instead, the name of the area should be specified for more informative. [Para 1.0(c)]

(30) The status & dimension of all the existing quarry(s) available in the lease area has not been furnished, which should be indicated and the para may be revised accordingly. [Para 1.0(e)]

(31) There is a mention that, the mining operations started in Bimarla lease since 2015-16, instead the actual date of commencement should be furnished. Moreover, the existing method of mining is stated to be by mechanised means 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 **Mining Strategy**, there are 6 quarries are proposed under excavation planning during the ensuing five years period, which is not permitted. Therefore, only one or two quarries should be proposed and the mining strategy should be revised accordingly. (Page No. 18)

(33) (i) Under the heading **Insitu Tentative Excavation**, the proposed generation status of topsoil & morrum, OB and production target for next five years have been furnished in tabular form but the location co-ordinates and the cross sections considered for excavation planning is missing in the table, which should be furnished by adding more columns. (ii) The bench/RL of the excavation planning for each year of the proposed five year period has not been given, which should also be furnished. (iii) The recovery percentage of the bauxite is considered as 80% of the ROM but the basis for such recovery is not known, which should be clearly indicated. Besides, the waste generation is indicated to be 20% but the basis for such generation has not been mentioned. In the light of the above, the data furnished in the tabular form should be revised. Accordingly, corresponding incorporations /modifications may also be made in connected paras in the text & relevant plates. [Para 2.0(B)(I)]

(34) The 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, laterite/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)]

(35) The calculations of drilling & blasting have been furnished but OMS & powder factor of the explosives is missing, which should be computed & furnished. (Page No. 23)

(36) 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 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/laterite but the same has not been discussed in the refer para. Therefore, the factual information about the topsoil, morrum/laterite is required to be furnished indicating, the quantities of topsoil, morrum/laterite proposed to be generated by end of the conceptual period supported by calculations for more informative. [Para 2.0(f)]

(37) In 2nd row of the 2nd table, the ultimate pit depth is indicated to be 13-16m, which should be checked and corrected. (Page No.26)

(38) Backfilling of mined out area has been proposed but no specific proposal to that effect has been furnished. Therefore, year wise backfilling proposal for the ensuing modification period should be furnished indicating the name of the quarry & location co-ordinates/cross sections considered for the same. Besides, the extent of area proposed to be backfilled & quantities of waste required for the purpose may also be furnished for clarity. All should be presented in tabular form. (Page No.27)

(39) The proposed plantation schedule for each year of the ensuing modification period has been furnished in tabular form but on examination of the same, it is found that, the plantation has been proposed along the boundary of the lease area, instead the same should be proposed in the backfilled area and location co-ordinates of such plantation may also be furnished by adding more columns in the table. (Page No. 31)

(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 quantities of soil & morrum proposed to be generated in each year of the ensuing modification period has been furnished in 2nd column of the 1st 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)]

(43) Extent of area proposed to be reclaimed in each year during the ensuing modification period has been furnished in 2nd table given in the para under reference but the 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. Besides, the last para given in the refer page is uncalled for and must be erased. (Page No. 34)

- (45) The grade of quarry waste as indicated in the enclosed annexure-XVI is not to be seen in the para under reference, which should be furnished. (Para 5.0)
- (46) Under the heading **Site Services**, the existing site services available has been furnished but the proposed status for the same has not been given, which should be furnished. (Para 7.0)
- (47) The meteorological data for January to December for the year 2011 has been furnished in tabular form; instead the latest available data should be furnished for more informative. (Page No. 39)
- (48) 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. 45)
- (49) 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)
- (50) The name, address & phone/Fax of the contact person has been furnished but the nearest fire station, Hospital and police station has not been given & the same should be indicated. (Para 8.4)
- (51) 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. 59)
- (52) Plate-1 (Key Plan): The details of the deficiencies found on the plate are as follows: (i) The entire topo sheet has been considered as Key Plan, which is not correct. Besides, 5km radius of the lease area has not been marked & the same should be drawn. (ii) The latitude & longitude of the lease area furnished on the plan should be checked and corrected. (iii) The index reference given for lease area with single thick red line has not been clearly visible on the plan portion of the plate; thereby the same should be marked properly. (iv) An index reference for core zone has been marked with violate colour but the same is not to be seen on the plan. (v) The index reference given for forest land with density is not matching with that of the plan. (vi) The population of the villages falling within 5km radius of the lease area has also not been clearly marked on the plan portion of the plate. (vii) The sampling stations for soil, air, noise & water marked in the index is not to be seen on the plan portion of the plate.
- (53) Plate No.3 (Surface Plan): (i) The index reference given for safety barrier of 7.5m is not matching with that of the plan. (ii) The index reference given for road is for public road or village road or for mine road has not been specified. (iii) There are many scattered existing quarries are depicted on the plan but those have not been named/numbered for their identification. Besides, some of the quarries are extended upto the 7.5m barrier zone and those places should be reclaimed & photographs in support of such reclamation may also be submitted. (iv) A portion of the lease area marked with brown coloured hatching around the existing borehole no. BH15A but the index reference for the same is missing, which should be indicated for ease in monitoring. (v) The pillar co-ordinates of the lease boundary pillars have been furnished but the numbering of all the pillars have not been done on the plan, which should be done for clarity. (vi) Atleast three permanent ground control points situated outside the lease area has not been selected and latitude & longitude of these ground control points also not furnished. Besides, these ground control stations need to be linked with the boundary pillars. (vii) The date of survey is mentioned to be on 26.05.2014, which indicates that, the features show on the plan has been updated missing, which should be indicated, therefore, the surface plan should be updated as on 01.04.2015 by depicting all existing features.

(54) Plate No.5 (Development Plan and Section 2015-16): (i) The index reference given for safety barrier of 7.5m is not matching with that of the plan portion of the plate. Besides, the index reference given for soil/morrum, laterite, bauxite and litho are not to be seen on the plan. (iii) The excavation planning have been proposed in two locations i.e. in Q-1A & Q-1B, which is not permitted, instead only one quarry should be proposed. It is further suggested that, the Q-1A can be extended in east, north & south directions in the locations which has already been proved to be mineralised. Alternatively, the Q-1B can also be extended in similar manner as that of Q-1A. (iv) On examination of development section 23-23¹, it is found that, the BH-3A has been drilled beyond the lease area & the same has been taken into account for reserves estimation & also for excavation planning, which is not permitted. As far as Q-1B is concerned, only one development section i.e. 14-14¹ has been taken into account & section line 15-15¹ is missing, if the Q-1B is intended to be developed, the section line 15-15¹ must be drawn. Accordingly, necessary incorporations/modifications may also be made in connected paras in the text & the relevant plates.

(55) Plate No.6 (Development Plan and Section 2016-17): (i) The excavation planning has been proposed in two locations i.e. in Q-1A & Q-2, instead the planning should be restricted to Q-1A & Q-1B, which has been proposed in 2015-16. Accordingly, necessary incorporations/modifications may also be made in connected paras in the text & the relevant plates. In the light of the above, the plates submitted showing the excavation planning for the years 2017-18 to 2019-20 may also be revised accordingly.

(56) Plate No.11 (Environment Plan): Certain existing features available within 500 meter radius of the lease area have not been clearly marked and the same should be depicted and the plate may be revised accordingly.

(57) Plate No.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.

GEOLOGY PART

TEXT:

1. The Plot no. 1334, 1336, 1346, 1351 & 1435 of Bimarla village are given in the land schedule but are not shown on the authenticated cadastral Map (Plate no. 2). Further, the demarcation line between plot no. 1460 & 1461 of Bimarla village has not been shown on the map. Similarly the plot no. 2 & 15 of Barang village are given in the land schedule but are not shown on the authenticated cadastral Map (Plate no. 2). Plot no. 13 of Barang village has been repeated. Plot no. 54/232(P) of Barang village as shown in the land schedule does not match on the cadastral map.

2. Area Plan has also to be incorporated. As per requirement, the access route to the area under reference has also to be shown in the Area plan with approach to major location on either end of the road. Further, the plan has to show type of land.

3. The Geo-referenced mining lease map prepared using DGPS shall be superimposed on Geo-referenced vectorised cadastral map. The same shall have to be submitted in compliance to CCOM's circular no. 2/2010, dated 06.04.2010 and its addendum dated 21.09.2011 & 11.06.2014. The above map will be base for preparation of all statutory plans as required under Rule-28 of MCDR, 1988.

4. Cover page: Regarding validity of lease, authenticated document from the State Govt. should be submitted.

5. The Consent letter and Certificates submitted should be revised as per new guideline.

Contd..7/-

6. Chapter-Introduction: The validity of lease period as per MMDR amendment should be supported with authenticated document issued by the State Govt.

In the second para the reason for reduction in lease area should also be mentioned. The Latitude & Longitude furnished do not match with Annexure- VII. The Topo sheet reference should include all the Topo sheet nos.

Company's Bauxite mines are not located in the State of Jharkhand only, company has got lease of Bauxite in other State also. The statement may be corrected.

It has been mentioned that, presently there are three mining lease hold areas within the State of Jharkhand, needs to be corrected.

Reason for modification in approved Mining Plan: Item no. (ii), how those old quarries came into existence have not been discussed. When were those quarries opened? Whether opening notice was submitted for opening of mine during that period? All these have to be discussed in the para.

Item no. (v) should be inserted as the modification is also required for extension of lease as per MMDR amendment Act, 2015.

7. CHAPTER- I- GENERAL: Item no. (f) . The date of grant of RQP certificate, its validity period and referred Annexure no. need to be corrected.

8. CHAPTER-II- LOCATION AND ACCESSIBILITY:

a) Lease Details:

i. Lat/Long of any boundary point: The Latitude and Longitude of BP-1 given does not match with the value given in Surface Plan (Plate no. 3) and the table showing Lat/Long of all corner boundary pillars on page no. 5. The value of lat/long of all boundary pillars should be reconciled properly.

ii. Date of grant of lease(Lease Period/Expiry date): Date of grant of lease has not been furnished along with its supporting document. 18.07.2009 is the execution date. The supporting document regarding Grant of lease has not been furnished.

iii. Document supporting validity of lease upto 17.07.2059 has also to be submitted.

b) Details of applied/lease area with location map:

i. The type of land existing in the lease area should be shown in the table as given in the guideline format.

ii. The authenticated lease map does not bear original signature, it is a photocopy.

iii. Area Plan: An Area plan showing type of land with access road has also to be submitted. The access road should indicate major location on either end of the road.

All the plans must indicate type of land existing in the lease area.

iv. Existence of public road/railway line if any(Location and approach): The distance of lease area from the village Bimarla has not been furnished. The type of road (Metalled/Non-Metalled/Seasonal etc.) from lease area to village and railway siding (Lohardaga& Tori) should also be mentioned under the para.

Distance of lease area from Lohardaga and Ghaghra may also be mentioned.

v. Power Grid: Whether Power Grid existing or not along with its distance from the mine/lease has not been mentioned.

vi. Topo Sheet no. with Lat& Long of Boundary Pillars: All four Topo Sheet nos. involved in the lease area need to be mentioned under the para. The co-ordinates furnished for BP-1 and BP-257 need to be reconciled properly with the BP co-ordinates given in the Surface Plan(Plate no. 3).

vii. Key Plan(Plate no. 1): The Latitude & Longitude of the lease area furnished do not match with the location given on the Key Plan. The Topo Sheet no. should be shown on referred portion of Key Plan.

Contd..8/-

As per Rule- 28(5)(a) of MCDR, 1988 the Key Plan should be prepared showing adjoining area lying preferably within five (05) kms of the lease area. The lease area should be prominently shown on the Key Plan. The forest/tree density of the Forest area should be clearly mentioned. The location of Biropani P.F need to be mentioned in the para.

Photographs of Pillar no. 1, 5, 74, 120, 150, 171, 257, 262, & 352 should be submitted along with the document.

c) General Location Map: As stated at item no. 8.(b)(vii) above.

9. Chapter-III- DETAILS OF APPROVED MINING PLAN/SCHEME OF MINING:

Para 3.3. Review of earlier approved proposal (if any) in respect of exploration, excavation, reclamation etc.:- (i). Excavation: The date from which the mine has become operative should be mentioned. The reference should also be made regarding the excavation already there in the lease area.

(ii). Exploration: The exploration work carried out during 2012-13 & 2014-15 has to be reviewed under the para. Proposal was for 128 nos. of BH but reason for not completing proposed no. of BH has to be explained. Further, Form- K under Rule 48 of MCDR, 1988 has not been submitted to this office. The type and size of drill bit used may also be mentioned.

Para 3.4: (Give status of compliance of violation): Under the column "Compliance Letter" only reply letter reference be given and not the status of the compliance position.

Para 3.6: In case of MP/SOM submitted for approval of modification: Under item no. (v) it has been mentioned that "the reserve in the approved Mining Plan was estimated on the influence area of certain old quarries". The details of old quarries like- period of excavation of such quarries, dimension of old quarries whether Form-C was submitted for the same etc. are to be spelt in the para.

10. Part- A(Geology & Exploration):

a) Brief description of topography, drainage pattern, vegetation etc:

Topography: The highest and lowest RL of the lease area has not been given. The shape and size of lease area has also to be mentioned.

Drainage : The drainage system (Phuljhar&DodkaNala) as mentioned in the para have not been shown clearly on the Key Plan(Plate no. 1).The distance of North Koel and South Koel river from the lease area should be mentioned.

Vegetation: The different forest body (Protected Forest, Reserve Forest etc.) existing surrounding the lease area within 500 m radius and within 5 kms radius are to be mentioned under the para with its distance & location from lease and tree density in a tabular form. The vegetation existing within the lease area shall also has to mention.

Climate: The maximum & minimum temperature during summer season has not been furnished.

b) Brief description of Regional Geology: Page no. 10, The general stratigraphic succession showing laterite and bauxite concentration during Recent period, needs correction. Further, the reference from where the Stratigraphic Succession has been quoted should also be mentioned.

The typical scarp section as given may be corrected as the first horizon is not in conformity with the para given above and location of occurrence of pink and green coloured Bauxite may be given.

In the first line of third para the word "Follow" should be replaced with "Overlain". The last line third para is not clear. The same may be explained.

Page no. 11- The variation in colour of Bauxite may be reconciled properly with actual observation in the field and be supplemented with photographs of the sample having colour variation.

Contd..9/-

c) Detailed description of Geology of the lease area:

Local Geology: The shape of area is not rectangular, it should be rectified. Dimension of the mineralized body need to be given.

Page no. 11- In the last para only two types of Bauxite occurrence has been given but mention has been made of three types. The same may be corrected.

A brief description of Renukoot Plant may be given incorporating capacity of plant (previous and present), quantity and quality of Input grade as well as quantity and quantity of output grade with date of commissioning and modernization.

Disposition of various litho units occurring within the lease area shall be discussed under the para.

d) Name of prospecting/exploration agency: Name of exploration agency who had carried out exploration work in the lease area with its required details may be submitted. If exploration had been carried out by the lessee himself then the exploration equipment such as drilling rig with its make and number available with the lessee may be given in this para with size and type of drilling bit used.

e) Details of prospecting/exploration already carried out: (i) The existing new format may be followed for description of this item under 04 sub-heads including Expenditure incurred in prospecting operation, which has not been furnished.

(i) Borehole: On the basis of borehole, the different level of exploration carried out in the area should be incorporated in a tabular form under the para. The table should include Block no.(if any), Co-ordinates, Area covered, No. of BH, Spacing of BH, No. of samples drawn/analysed, Range of thickness of Bauxite, Grade & Level of exploration.

(ii) A table showing concise BH log of all the 115 nos. of boreholes giving BH no. total depth of hole, total recovery length, thickness of Bauxite encountered and its complete analysis report showing all radicals including P_2O_5 , V_2O_5 & TiO_2 may be enclosed as Annexure as a component of Annexure-IV.

(iii) Sampling & Analysis: None of the enclosed analysis report (Annexure-IV) have been supported with chemical analysis from NABL accredited laboratory. Complete chemical analysis of Ore/Mineral should be furnished with special mention of TiO_2 , P_2O_5 & V_2O_5 . Average grade of sample should be spelt.

At least for 10% of total samples may be analyzed in accordance to BIS and reports

from NABL accredited /Government laboratory (Ref. Part-A, Item no. 1.0(e)(iii) of Universal format for MP/SoM).

f) Surface Plan (Plate no. 3): (i) Date of survey has not been mentioned on the plan.

(ii) The numbering of boundary pillars marked on the Plan should be properly made. There should not be skip in number, it should be continuous and it should be in conformity with actual position of boundary pillars in the field. The manner of construction and upkeep of boundary pillars should be in accordance to item no. 4 of G.S.R. No. 710(E), dated 08.10.2014 (Ministry of Mines Notification).

(iii) The TBM has not been shown with proper RL on the plan. A photograph of the same should be incorporated in the document showing all its required features.

(iv) The Safety barrier (7.5m) of lease boundary has not been marked on the plan as shown in the Index.

(v) In Bimarla village, the plot nos. 1333, 1351(not shown on khasra map), 1375 & 1529 have been shown as Rasta(G.M. Aam), the road has not been shown on the plan.

(vi) The type of road shown on the plan may be spelt clearly whether it is village road or any other road.

(vii) There are three (03) types of hatched area shown on the plan but in the index of the plan only one type of hatched area has been shown. The same may be clarified.

(viii) No proposed features should be shown in the surface plan, only existing features shall be shown in this plan as per requirement of Rule- 28(1)(a) of MCDR, 1988.

g) Geological Plan: (Plate no. 4): (i) Item no. (i) to (vii) mentioned above in Surface Plan may also be taken care of in this plan.

(ii) Area explored under different level of exploration may be marked on the Geological Plan.

(iii) The influence area considered for Resource estimation is not clear from the plan. The influence area of each borehole should be marked on the plan for area calculation in soft copy in Auto-Cad format.

(iv) The lithoformation exposed on the surface has not been shown on the plan.

(v) The basis for fixing conceptual limit has not been discussed under the para. The conceptual limit has not been shown properly on the Geological Plan.

(vi) The grid value has not been shown properly on the Northern & Southern end of the Geological Plan.

(vii) The BH shown at N1500 & E300 has not been given any number.

(viii) The nomenclature of BH shown on the plan and given in the log sheet should be reconciled properly. It should be identical.

(ix) Location of BH log as given in Annexure- IV should be reconciled properly with the grid value of Geological Plan.

(x) Near BH95(at W100 & S100) one triangle has been shown, what does it indicate may be explained and be shown in the Index of the Plan.

(xi) BH 1A, BH 29A, BH 106 & BH 120 are -ve BH (as per BH log submitted As Annexure-iv) but have shown as +ve BH on the Plan. The same may be rectified.

(xii) The year wise proposed BH should be shown with different colour scheme on the Geological Plan.

(xiii) Conceptual limit has been shown around negative zone. The reason for the same may be explained.

(xiv) All the old quarries/pits should preferably be numbered for ease of reference and quarry/pit section should be incorporated under the para.

h) Geological Sections (Plate no. 4A): The UNFC code of area considered for different categories of reserve/resource estimation may also be marked on geological cross section.

(ii) The colour code used for Bauxite in the Index does not match with that shown on the Sections.

The vertical scale may be enhanced for better representation.

(iii) Index for Aluminous Laterite has not been given (Ref. Section 4-4', near BH 53, Section 7-7' etc.).

(iv) The BH log does not show lithomarge, but in all the sections lithomarge has been shown at the bottom. The same may be taken care of.

(v) All the Sections should be reconciled properly with the plan for location of quarry, RL of benches, UPL limit, thickness of Bauxite as given in the submitted BH log.

i) Future exploration programme: The GPS co-ordinates (Lat& Long) of the proposed borehole need to be supplemented in the table for better correlation of Plan with the field.

The justification for proposing PBH20, PBH21 & PBH34 may be given a re-thinking.

j) Reserve Resource as per UNFC: Feasibility/Pre-feasibility study report along with Financial analysis for economic viability of the deposit as specified under the UNFC field guideline has not been incorporated in detail in the sub para "Feasibility Study".

The reserve furnished in the table has not been clarified whether it is Mineable or Insitu.

The table showing different categories of reserve/resource may be placed under item no. (L/I) below.

The Resource figure as per UNFC with respect to the threshold value notified by IBM has not been incorporated in tabular form. Further, area covered under exploration for calculation of resource in context to threshold value may also be given.

Contd..11/-

k) Detail calculation of reserves/resources: Additional Reserve established category wise- Under the para a table showing previous Reserve calculated as per approved Mining Plan and present reserve calculated need to be given for visualizing the additional reserve established.

The source from where the "Total Mineral Resources as on 01.04.2015" has been established may be explained properly.

Annexure-V(Table showing calculation of Reserve)- The heading of the table should be Total Resource. The grid reference and grade of Bauxite must be included in the table for each BH for better understanding. There is mismatch of thickness of Bauxite in respect of BH 1A, 30A, 113, 115, 128, BMKP-10, BMKP-12, BMKP-14 etc. with respect to BH log given in Annexure-IV.

Further, the area calculated for BH-1A, 3A, 19A, 47, 53, 108, 109, 128 etc do not match with the Geological Plan(Plate no. 4). No core log for BH 53 has been incorporated in the BH log, Annexure-IV. After attending the above correction resource to be established afresh.

The grade of Bauxite ore taken into consideration for calculation of sub-grade reserve should be mentioned. Tonnage factor considered for sub-grade ore need to be established through field test as per guideline.

Mineable reserve: For calculation of mineable reserve, neither recovery % has been taken into account nor the Recovery length as shown in Annexure-IV(BH log) has been taken into consideration for calculation of reserve/resource.

Anticipated life of mine: In view of above, the life of mine accordingly may be revised.

For number of sample analysis to be carried out, refer Part-A (e)(iii) above.

(l) Mineral Reserve/Resource: (i) The table showing resource with respect to level of exploration may be modified slightly by including a column of area covered under level of exploration. The Resource position with reference to threshold value has not been incorporated.

(ii) As per present guideline the tonnage factor and recovery factor are to be established through field test.

The table showing Reserve/Resource should be placed under this para at the last after detailing all above items.

(iii) The Reserve/Resource figure need to be corrected in view of item no. (k) above.

11. Item no 2.0 Mining:

2.0.a) Proposed method of excavation: Mining Strategy- One temporary top soil & OB stack should be there which need to be mentioned in the para and in the sequence of mining. The same should be shown on the Development plan.

2.0.b) Year wise tentative excavation: The table showing total tentative excavation should be re-casted as per guideline. The revised table should include quarry dimension. The analysis report of Mineral reject is to be incorporated if it is considered in the table. Quantity of ROM does not match with the addition of preceding column. The same may be explained.

2.0.c) Individual year wise development- (i) The top and bottom RL of each bench should be mentioned in year wise development.

(ii) Total OB & ROM generated need to be checked from the soft copy in Auto Cad format.

(iii) Quantity of Bauxite has been taken as 90% of ROM The same may be reconciled properly with Part-A, item no. (k), Mineable Reserve.

2.0.e) Extent of Mechanisation: Justification for deployment of mining machinery need to be discussed in detail with supporting calculation.

Drilling & Blasting: Pattern of blasting has to be mentioned. The explosive to be used should be mentioned in detail. The blasting permission certificate from DGMS should be incorporated as Annexure. The explosive license of M/s Hiralal Agency Pvt. Ltd. ,enclosed as Annexure-XV, has expired long back.

12.Para 8.3 (Progressive Reclamation Plan) The year wise area to be backfilled should be re-checked with the year wise Development Plan and total area backfilled during 5 year plan period should be checked with Reclamation Plan.

ANNEXURES:

i. The Consent letter/Undertaking/Certificate from the applicant has not been submitted as per Part-B of the "Proposed Universal Format For Mining Plan/Scheme of Mining Including Progressive Mine Closure Plan".

ii. Annexure-XV: Explosive license has expired its validity long back.

iii. Annexure-XXI: B.P no. not clearly visible.

iv. Blasting permission from DGMS may also be incorporated in the document.

v. The NABL accreditation certificate in respect of "Earth & Environment Laboratory" and "Eco Ventures Pvt. Ltd." Have not been incorporated.

GENERAL:

1. All the tables given in the document should be numbered for proper reference.
2. All the Plans must bear date of survey.

PLAN/SECTION:

1. Existing Development Plan may also be submitted for better understanding.

2. (i) Development Plan: The existing benches of old quarry should be shown. The benches formed during previous year need to be shown with black solid line. The number of benches proposed to be formed should be shown on the Development Plan.

(ii) Development Sections(Plate no. 5, 6, 7, 8 ,9): All the sections should be reconciled properly with the respective Development Plan in respect of location of existing boreholes, proposed BH, reclaimed area, plantation area with RL of every features including RL of benches.

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