

SCRUTINY COMMENTS ON EXAMINATION OF MODIFICATION IN APPROVED MINING PLAN FOR ANGARA GRAPHITE MINE OF M/S ARUNJAY NARAYAN SINHA, OVER AN EXTENT OF 6.28 HECTARES, LOCATED IN ANGARA VILLAGE, UNDER PANKI P.S OF PALAMAU DISTRICT OF JHARKHAND STATE, SUBMITTED UNDER RULE 22(6) OF MCR, 1960.

(1) An authorisation letter from Shri Ashok Kumar Jain, one of the partner, authorising Shri Vaibhav Jain, Partner to sign the document in respect of Angara Graphite Mine of M/s Arunjay Narayan Sinha has been enclosed but a resolution passed by the Board of Directors of the company, nominating Shri Vaibhav Jain as the owner of Angara graphite mine has not been enclosed, which should be submitted. For information, unless a person has been nominated as the owner of the aforesaid mine by the Board of Directors, he cannot sign the document in his individual capacity or by designation. Therefore, the above authorisation should be supported by a board resolution, incorporating the name of all the shareholders as required under the statute.

(2) In the front cover, the validity of lease period is indicated to be upto 11.09.2043, which should be checked & corrected.

(3) The DGPS surveyed map/plan in compliance to CCOMs circular No.2/2010, 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 its present form.

(4) On examination of the land schedule given in 5th & 6th page of the lease deed enclosed as annexure-1, the extent of lease area is 6.261ha, whereas, the modification document has been submitted, over an extent of 6.28ha. Therefore, the mismatch in the extent of lease area should be reconciled. Besides, the demarcated lease area is stated to have been marked with red line in the lease sketch attached to the lease deed but no such red line bounded by the lease area is seen, which should be depicted for more informative.

(5) Form J for renewal of the mining lease has been enclosed as annexure-2 but nothing has been given about the present renewal status, which should be furnished.

(6) A letter addressed to Assistant Mining Officer, Daltonganj enclosing the land schedule for 6.280ha for correction and the same has been enclosed as annexure-3 but corrected land schedule from the competent authority of State Govt. has not been enclosed, which should be submitted & the annexure may be revised accordingly.

(7) A copy of the partnership deed has been enclosed as annexure-5 but the same has not been registered with the Sub-registrar or with the competent authority of State Govt., thereby not acceptable in its present form.

(8) A copy of certificate of Registration in favour of M/s Arunjay Narayan Sinha has been enclosed as annexure-8 but the photo copy of the memorandum & article of association in favour of aforesaid firm has not been enclosed, which should be submitted.

(9) The photocopy of the drilling report & litho logs of the drilled holes are enclosed as annexure-10 but it is not known when such holes are drilled, which should be furnished and the report may be revised accordingly.

(10) The chemical analysis report in support of grade of the graphite from Sun-Tech has been enclosed as annexure-11 but the report is old one, analysed on 17.12.2012, instead a fresh report for the same should be submitted either from a Govt. laboratory or from a NABL accredited laboratory.

(11) The chemical analysis report in support of quality of water from Sun-Tech has been enclosed as annexure-12 but the report is old one, analysed on 17.12.2012, instead a fresh report for the same should be submitted.

(12) Few photographs of the existing plantation, approach road & Sarva Sikhya Aviyan has been enclosed as annexure-14 but no photographs for existing quarries, existing dump, existing exploration & boundary has not been enclosed, which should be submitted for more informative.

(13) The measured mineral resources have been computed & enclosed as annexure-15 but the information/data pertaining to depths of occurrence for such resources is missing and the should be furnished for ease in monitoring.

(14) The excavation planning for the period from 2015-16 to 2019-20 has been computed & enclosed as annexure-12 but the length, width of benches proposed in topsoil, overburden & graphite ore zone has not been furnished. Besides, the name of the quarry(s)/ location co-ordinates considered for the purpose is missing, which should also be furnished by adding more columns in the tabular annexure. Moreover, the recovery of graphite 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 graphite 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, necessary corrections/modifications may also be made in connected paras in the text & in relevant plates.

(15) The flow chart of graphite beneficiation is enclosed as annexure-18 but the same is not clearly legible, thereby a fresh copy of the same should be submitted for ease in monitoring.

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

(17) The flue gas, effluent, soil and noise level monitoring reports in support of Angara graphite mine of M/s Arunjay Narayan Sinha has not been enclosed, which should be submitted for ease in monitoring.

(18) A copy of valid MoEF clearance report for the aforesaid mine has not been enclosed, which should be submitted for more informative.

(19) A copy of the explosive procurement license and a copy of the blasters license as required for carrying out blasting operation in the mine have not been enclosed along with the document, which should be submitted.

(20) A copy of the valid consent to operate the mine from Jharkhand State Pollution Control Board has not been enclosed, which should be submitted.

(21) The copy of the valid Bank Guarantee matching to the ensuing modification period has not been enclosed, which should be submitted for ease in monitoring.

(22) In 1st para of the introduction chapter, a mention has been made that, the extent of lease area is 6.28ha as per the lease deed, which is not correct. On examination of the land schedule given in 5th & 6th page of the lease deed, the extent of lease area is 6.261ha. Therefore, the mismatch in extent of the lease should be reconciled.

(23) In 8th para of the introduction chapter, the approval status of the scheme of mining is missing, which should be clearly indicated for more informative.

(24) The valid reasons for submission of modification in the approved mining plan under Rule 22(6) of MCR, 1960 should be furnished instead of mentioning, no modification of mining plan or scheme of mining was made earlier. (Para 3.2)

(25) The proposed & actual achievement status of exploration done during each year of the last approved mining plan period (2003-04 to 2007-08) should be furnished indicating the reasons for higher/lower side deviation if any for clarity. Besides, the exploration done during the period from 2008-09 to 2014-15 may also be furnished. All should be presented in tabular form and rest of the things should be erased. [Para 3.3(i)]

(26) Under the heading **Excavation**, the production & OB removal proposed in each year of the last approved mining plan period (2003-04 to 2007-08) and achievement thereof has been furnished in tabular form but the name of the quarry(s)/location co-ordinates/cross sections considered for production in each year has not been given, which should be furnished by adding more columns right to the table given in the para under reference. In addition to the above, the actual achievements reported on account of production & waste handling during the period from 2008-09 to 2014-15 may also be furnished for more informative. [Para 3.3(ii)]

(27) Under the heading **Reclamation**, the proposed & achievement status of afforestation during the last approved mining plan period (2003-04 to 2007-08) has not been clearly indicated, which should be furnished. Besides, the achieved plantation status for the period from 2008-09 to 2014-15 may also be furnished. All should be presented in tabular form & rest of the things may be revised accordingly. [Para 3.3(iii)]

(28) Under the heading **Afforestation programme**, the proposed & achievement status of afforestation during the last approved mining plan period (2003-04 to 2007-08) has not been clearly indicated, which should be furnished. Besides, the achieved reclamation & rehabilitation status for the period from 2008-09 to 2014-15 may also be furnished. All should be presented in tabular form & rest of the things may be revised accordingly. [Para 3.3(iv)]

(29) The summary of violations pointed out and manner of compliance thereof during the last five year in the mine should be given in tabular form and the para may be revised accordingly. (Para 3.4)

(30) It is found that, the mine has been suspended on 03.07.2015 but the present status of the same is missing, which should be furnished and the para may be revised accordingly. (Para 3.5)

(31) The valid reasons for submission of modification in the approved mining plan under Rule 22(6) of MCR, 1960 should be furnished instead of mentioning **not applicable**. (Para 3.6)

(32) 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. Besides, the rainfall data for last 10 years also been furnished in tabular form but the financial /calendar years has not been specified, which should be updated and the tables may be revised accordingly. (Page No.12 to 14)

(33) There are 13 nos. of boreholes are stated to have been drilled but financial years in which such holes were drilled are missing, which should be furnished by adding more columns in the table. Besides, the name/number of existing quarry(s) available in the lease area may also be furnished indicating their dimension for more informative. Moreover, no form J for drilling such holes has been submitted to this office so far. In the light of the above, the para may be re-drafted accordingly. [Para 1.0(e)(ii)]

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(34) Under the heading **Samples analysis**, there is a mention that, the channel & grab samples are collected from Quarry-1 & 2 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.17)

(35) The existing method of mining has not been discussed as per the heading of the para, which should be given. Besides, the location co-ordinates of the existing quarries & dumps may also be furnished and the para may be revised accordingly. [Para 2.0(A)(a)]

(36) The Proposed Method of Mining furnished in the para under reference may 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 furnished. 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. (Page No. 25)

(37) Under the heading **Bench Design and formation**, there is a mention that, the height of the benches in soil & overburden is 2.5m and 6m in ore zone but nothing has been mentioned about the bench formation status in soil, overburden etc., which should be discussed and the para may be revised accordingly. (Page No.27)

(38) (i) Under the heading **In situ Tentative Excavation**, the proposed generation status of soil, OB/SB/IB, mineral rejects/waste 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 recovery percentage of the graphite is missing, which should be indicated. 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)]

(39) 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, overburden & graphite 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)]

(40) 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 graphite is found below the lairs of topsoil & overburden but the same has not been discussed in the refer para. Therefore, the factual information about the topsoil & overburden is required to be furnished indicating, the quantities of topsoil and overburden proposed to be generated by end of the conceptual period supported by calculations for more informative. [Para 2.0(f)]

(41) In 2nd row, 2nd column of the 2nd table, the ultimate pit depth has been considered as 30m but no exploration has been done upto that depth, thereby the ultimate depth of the quarry should be revised based on the existing exploration and the para may be revised accordingly. (Page No. 39)

(42) Under the heading **Reclamation and rehabilitation**, dumping for each year of the ensuing modification period has been furnished in tabular form but location co-ordinates of such dump(s) is missing, which should be furnished. Besides, no rehabilitation measures for the proposed dump by way of plantation has also not been given, which should be furnished and the para may be revised accordingly. (Page No. 40)

(43) The land use after the five year plan period has been furnished in 1st table given in the page under reference, instead the same by end of each year of the ensuing five year period is required to be given in separate tables and the para may be revised accordingly. (Page No.41)

(44) The minimum & maximum depth of water table in the area should be furnished and the para may be revised accordingly. [Para 3.0(a)]

(45) The quality of water encountered in the area is required to be furnished after updating the water quality analysis report enclosed as annexure-12 and the para may be revised accordingly. [Para 3.0(b)]

(46) The quantities of, OB/SB/IB proposed to be generated in each year of the ensuing five year period has been furnished in 3rd column of the 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 more columns in the table. [Para 4.0(a)]

(47) A mention has been made that, all the four existing dumps are proposed to be removed but no proposal to that effect has been incorporated anywhere in the document. Therefore, the para may be revised accordingly. Para 4.0(b)]

(48) The quantities of OB/SB/IB proposed to be generated in each year of the ensuing five year period has been furnished in 2nd column of 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(c)]

(49) The graphite contains 11.31% fixed carbon but no valid chemical analysis report in support of such grade has been enclosed. Besides, the cut-off grade of graphite also not furnished and the same should also be furnished considering the thresh hold value fixed for graphite mineral. (Para 5.0)

(50) Under the heading **Site Services**, the existing site services available in the mine has been furnished but the proposed status if any may also be furnished and the para may be revised accordingly. Para 7.0)

(51) Under the heading **Employment Potential**, a full time Mining Engineer holding degree in mining engineering as required under Rule 42 of MCDR, 1988 and a 1st class mine manager as required under MMR, 1961 has not been proposed under employment, which should be done and the para may be revised accordingly. (Page No. 51)

(52) The average rainfall data from January to December for the year 2014 has been furnished in tabular form, instead the latest available data should be furnished. (Page No. 55)

(53) Under the heading **Recreation Facility**, the facilities available to the local people of the surrounding area should be furnished in detail & the para may be revised accordingly. (Page No. 61)

(54) 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, restoration & afforestation etc. for each year may also be furnished. All should be furnished in tabular form and rest of the things should be erased. (Para 8.3.1)

(55) Dimension (L x B x D) of the void available for backfilling has not been furnished in 3rd row of the table given in the page under reference and the name of the quarries linked in the void formation is also not given, which should be furnished. Accordingly, the information furnished for the period from 2016-17 to 2019-20 in page No. 66 to 69 may also be revised. (Para 8.3.5 of page No. 65)

(56) 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. 73)

(57) 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 the lease area, thereby the notation should be changed accordingly. (ii) The index reference given for metalled road is for village road or for public road has not been specified. Moreover, the same road is not to be seen on the plan portion of the plate, which should be marked. If the road is public road, to which important places both end of the road leads to may also be indicated. Likewise, the status of footpath marked in the index is not to be seen on the plan. (iii) The index reference given for forest land with density is not matching with that of the plan portion of the plate. (iv) Direction of flow of nala is missing on the plan portion of the plate. (v) The index reference given for village with population is not to be seen on the plan. (vi) Besides, 25cm long scale also not marked on the plate.

(58) Authenticated lease area plan: The signatures of the officials are not clearly legible on this plate, thereby the plate should be replaced by a fresh one for clarity.

(59) Plate No. 3 (Surface Plan): (i) The land classification given in front cover of the document on account of Raiyati land &G.M. land have not been marked with different colour codes, which should be done. (ii) Atleast three permanent ground control points situated outside the lease area have not been selected and latitude & longitude of these ground control points also not furnished, which should be done. Besides, these ground control stations need to be linked with the boundary pillars. (iii) Moreover, 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 accordingly.

(60) Plate No.10 (Environment Plan): Certain existing features available within 500 meter radius of the lease area have not been marked and the same should be depicted for clarity & the plate may be revised accordingly.

GEOLOGY PART

PART-A-1. GEOLOGY AND EXPLORATION: The discrepancies/deficiencies observed in the text part of Geology portion of the submitted document are given below for kind information.

TEXT PART:

1. (a) page no. 11: Under Heading Vegetation: The number of trees like sal, palas, babulexisting within lease area may be furnished in the tabular form so that its existence could be maintained for eco balance. The forest density may also be clearly spelt.

1. (e) (i) Page no. 15: Under Heading Details of prospecting/exploration carried out: The no. of pits/trenches made if any during the mining plan period (2003-04 to 2007-08) may be given for more information and accordingly this para may be revised. .

1. (e) (ii) Page no. 16: Under this para it was stated that 13 no. of bore holes were drilled in the lease area without mentioning financial year that in which the drilling work were carried out. Moreover, no form –J has been submitted to this office so far nor enclosed along with the submitted document. Accordingly this para may be revised and Form-J may be enclosed along with the document.

1. (c) Local Geology: It is stated that major portion of lease area is soil covered but the existing features present and not covered by soil has not been discussed for more information, which should be discussed and accordingly para may be revised. (Page no. 14)

2. Under the heading sample analysis, it is stated that the channel and grab samples were collected from the quarry no 1 & 2 and from each bore holes but the manner in which the samples were collected and analysed has not been clearly indicated which should be discussed and the para may be revised accordingly.
3. The chemical analysis report in support of grade of the graphite from sun tech laboratory, Ranchi has been enclosed as annexure-11, the report is old, analysed on 17.12.2012, the fresh report for the same may be submitted either from a Government laboratory or from a NABL accredited laboratory.
4. The drilling report and litho logs of drill holes are enclosed as annexure -10 but it is not clear that in which plan period such drills were carried out, the same should be discussed and accordingly para may be revised. The litho logs of existing or old pits may also be included along with drilling report.
5. Under heading Fresh Reserve established: (Page no. 21) – The measured mineral resources calculated & enclosed as annexure-15 but the information relating to depth extension taken for reserve/resources estimation has not been discussed and the same should be discussed where ever applicable in the text for more clarity and information.
6. Some spelling mistakes have been observed in the text and marked with pencil may also be taken care of.

PLAN & SECTIONS:

7. Surface Geological Plan (plate no. 4): It is stated that quartz mica schist is striking east-west direction dipping in a variable angle of 78° to 80° towards south but the dip- strike direction has not been plotted for the same on the plan. Surveyor's signature is also missing which should be signed by the competent surveyor.
8. Geological section (plate no. 4A): i) Section A- A': Bottom RL of quarry no. 2 and top RL of dump (debris) have not been shown. ii) Section D-D': No. of benches shown in the section are not matching with the benches shown on the plan and bench and dump RL has also not been shown. iii) Section H-H': Bench, Dump, and quarry bottom RL have not been shown iv) Section I-I': Road and quarry bottom RL has not been shown. v) Section K-K': BH no. 6 has not been shown. The above discrepancies should be corrected and re-submitted along with the document.

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