भारत सरकार GOVERNMENT OF INDIA
खान मंत्रालय MINISTRY OF MINES
भारतीय खान ब्यूरो INDIAN BUREAU OF MINES
क्षेत्रीय खान नियंत्रक के कार्यालय
OFFICE OF THE REGIONAL CONTROLLER OF MINES

BY REGD POST
Phone: 0674-2352463
Tele Fax: 0674-2352490
E-mail: ro.bhubaneshwar@ibm.gov.in
Plot No.149, Pokhariput
BHUBANESWAR-751020

No. MS/OTFM/27-ORI/BHU/2017-18 Date: 01.11.2017

To

Shri Sanjaya Kumar Dagara, Authorized Signatory,
At/P.o-Rairangpur,
Dist-Mayurbhanj, Odisha-751001

Sub: Approval of Review of Mining Plan of Ghusuria Iron, Quartzite & Soap Stone Mine along with Progressive Mine Closure Plan (PMCP), over an area of 54.585 ha in Mayurbhanj district of Odisha State, submitted by Shri Drupada Chandra Dagara under Rule 17 of MCR, 2016.

Ref: - i) Your letter No. DCD/GIM/80/2017-18 dated 28.09.2017 received on 10.10.2017.
ii) This office letter of even no. dated 10.10.2017.
iii) This office letter of even no. dated 10.10.2017 addressed to Director of Mines, Government of Odisha copy endorsed to you.

Sir,

This has reference to the letter cited above on the subject. The draft Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on site inspection dated 30.10.2017 by Shri S R Mazumdar, Senior Mining Geologist. The deficiencies observed are enclosed herewith as Annexure I.

You are advised to carry out the necessary modifications in the draft Review of Mining Plan in the light of the contents vide Annexure 1 and submit **three (3) firm bound and two (2) soft copies of the document text in CD in a single MS Word file (the drawing/plates should be submitted in Auto CAD compatible format or JPG format in resolution of 100x100 pixels on same CD)** with financial assurance under Rule 27 of MCDR 2017 of the Review of Mining Plan within **15 (Fifteen)** days from the date of issue of this letter, for further necessary action. If the total page of annexures exceeds 50 (Fifty) then it should be submitted as separate volume. But reference of these annexures must appear in the Review of Mining Plan document. The plates are also to be submitted in separate volume.

The para-wise clarifications and the manner in which the deficiencies are attended should invariably be given while forwarding the final copies of the Review of Mining Plan. It may be noted that no extension of time in this regard will be entertained and the Review of Mining Plan will be considered for rejection if not submitted within above due date. It may also be noted that if the deficiencies are not attended completely, the submission would be liable for rejection without further correspondence.

Yours faithfully,

(HARKESH MEENA)
Regional controller of Mines

Scrutiny comments on examination of review of mining plan of Ghusuria Iron, Quartzite & Soapstone Mine including PMCP over an area of 54.585 Ha of Shri. D.C. Dagra in Mayurbhanj District of Odisha State

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1. GENERAL:

I. On cover page Lessee's address, e-mail, phone and fax no. may be furnished along with the phone numbers of qualified persons. Also the phone no, mobile no email id along with rule 45 registration no should be mentioned in page 6 of the text document.

II. Status of all statutory clearances obtained or to be obtained should be given in the chronological order in tabular form in 'Introduction' Chapter along with documentary evidence.

III. In Annexure No. XVIII, Copy of Forest Clearance Status, it has been mentioned that the state government has declared the above mentioned mining lease as "Lapsed" vide their proceedings no. 12046/SM dated 09.12.2015. The current working status of the above lease to be submitted clearly indicating the lease as Lapsed or not lapsed with supporting documentary evidence.

IV. Lease Grant order of the RML over 54.585 Ha area or consent from state government against the application submitted as per Annexure no. XI. along with authenticated mining lease area map over 54.585 Ha may be submitted.

V. It has been mentioned that the in the cover page that the date of lease expiry of lease is 20.08.2004 and referring page no. 2 stating that the as per MMDR (Amendment) 2015, the lease period is deemed to be extended up to 20.08.2034. Hence, supplementary lease deed/ supporting documents may be enclosed showing the expiry of the lease period has been extended till 20.08.2034 over an area of 54.585 Ha.

VI. "Mineral Conservation and Development Rules 1988" to be replaced with "Mineral Conservation and Development Rules 2017" in the content of different parts of the text. The reference quoted at MCDR 1988 may be replaced with relevant rules under MCDR, 2017.

VII. All the annexure and text to be properly indexed/ numbered/ paged and signed by qualified persons and surveyor. All the certificates should bear dated signature.

VIII. Sequence of para as per IBM Manual appraisal MP 2014 has not been covered in text. All the headings as mentioned in the IBM Manual appraisal MP 2014 should be furnished in all chapters in the text.

IX. The terminology "scheme of mining" may be replaced with "review of mining plan" at all relevant places in the text.

X. In page no.11, para 3.3.2, it is mentioned that "mining was carried out in T.P quarry & already existing Border pit quarry" whereas in table below the production shown in previous and current year is "Nil" as the mine is suspended due to want of forest clearance. The two contradicting statements must be rechecked and rectified accordingly.

2. GEOLOGY

I. In page no. 19, the figures furnished under category wise status of exploration in tabular format may be re-assessed and rectified based on the field discussion.

II. The future exploration proposal may be revised in light of additional requirement of boreholes along the section line. The section line to be in 100m regular interval and proposed borehole locations at 100 m spacing in the section line. Accordingly, the Geological plan and sections should be revised and updated. The year wise proposal of boreholes may be priorities based on year wise development plan and also proving non-mineralized before OB dumping. The proposal for revised future exploration program should be furnished in tabular format indicating

proposed borehole number, section line, coordinates, proposed depth, inclination, year of drilling etc.

III. The depth of the proposed boreholes should be adequate enough to justify the lateral and depth extension of the ore zone along and across the section lines up to the end of mineralization considering the geology and nature of ore deposit.

IV. In page no 22-23, the parameters considered for resource estimation may be modified as discussed in field. Detailed Exploration (G1) involves the detailed three-dimensional delineation of a known deposit achieved through sampling, such as from outcrops, pits, trenches, boreholes, shafts and tunnels etc. General Exploration (G2) involves the initial delineation of an identified deposit. Methods used include surface mapping, pitting/ trenching/drilling, followed by sampling for evaluation of mineral quantity and quality (including mineralogical tests on laboratory scale if required), and limited interpolation based on indirect methods of investigation. Based on above description the area under different levels of exploration as per UNFC may be recalculated and furnished.

V. Based on the information furnished on cutoff grade for iron ore in page no.24, the ore analyzing between 45% Fe to 58% Fe may be considered as mineral reject/subgrade. Hence, separate estimation of BHQ need not be submitted and BHQ analyzing between 45% Fe to 58% Fe may be considered as mineral reject in iron ore ROM and all calculation may be modified accordingly.

VI. In page no 24, the table furnished may be modified. The ROM constitutes saleable ore and mineral rejects. The IB/SB should be considered as waste. Since it has been considered that the BHQ analyzing between 50-58% Fe has been considered as subgrade iron ore, then in this light the BHQ need not be required to be shown

separately and this should be part of MR in iron ore ROM. Thus the proportion of saleable ore and mineral rejects part of iron ore ROM may be reassessed and furnished in the table. The necessary corrections in reserves and resources of iron ore elsewhere in text may be made accordingly. All the tables showing separate estimation of BHQ may be deleted and BHQ analyzing between 45-58% Fe should be treated as MR in Iron Ore ROM and those analyzing less than 45% as "Waste".

VII. The resources maybe estimated and furnished in the following tabular format.

Level of Exploration	Resources in million tons	Grade
G1 - Detailed exploration		
G2 - General Exploration		
G3 – Prospecting		
G4- Reconnassance		

VIII. The tables in page no. 25 & 26, the may be re-estimated based on inclusion of BHQ in iron ore as subgrade/mineral rejects and the separate table of BHQ may be deleted.

IX. In page no.27 & 29, the UNFC classification of BHQ may be deleted. Since BHQ has been classified as subgrade iron ore, accordingly the calculations in the UNFC table for iron ore may be modified.

X. The section wise calculation of reserve and resource from page no.31-42 maybe modified considering the BHQ (analyzing between 50-58% Fe) as subgrade iron ore part in iron ore ROM.

I. In page 43, the table on BHQ may be deleted and table on iron ore may be recalculated based on revised area assessment of (G1/G2/G3/ etc).

II. In page 45, the table on BHQ may be deleted and relevant correct may be made on iron ore table.

III. Justification on UNFC may be revised based on field discussion and necessary correction made thereafter.

IV. The details like potentially mineralized area and its extent (coordinate in WGS 84), potentially mineralized area explored (in forest etc.), remaining area with present level of exploration may be furnished.

V. The UNFC boundaries as per the present status of exploration under MEMC rules 2015 may be demarcated over the Geological Plan and Sections.

VI. The geological section lines may be drawn in suitable interval (preferably 100m).

VII. A longitudinal section may also be shown on geological plan.

VIII. With the re-defined limits of UNFC boundaries, the mineral reserves and resources estimated under UNFC codes as tabulated in page -28 of text based on the level of exploration as per MEMC Rules 2015 with reference to threshold value of minerals declared by IBM has to be re-estimated and furnished with average grade as discussed in field along with proper justification of assigning codes under UNFC to the reserves and resources re-estimated.

IX. In the future exploration program, Geological Mapping to be proposed over the total mining lease area on 1: 2,000 or larger scale for detailed exploration (G1) stage.

X. In the Geological sections, the UPL and benches should be drawn properly. The UNFC boundary/code may be shown properly.

XI. As per guideline of "IBM manual on appraisal of Mining Plan 2014" at least 10% of total samples to be analyzed in accordance to BIS and reports form NABL accredited/Government Laboratory. Accordingly, the proposal should be given under future exploration programme.

3. MINING

I. The statement "ROM of BHQ" may be replaced with "subgrade iron ore/mineral reject"

II. In page 54-56, in the table showing insitu excavation, the column "mineral reject (waste)" may be deleted. The table showing year wise development of BHQ may be deleted. On the basis of its Fe content (45%-58%) Fe it may be a part of mineral reject in iron ore ROM.

III. The mine design parameters such as bench width & height, slope angles etc. may be furnished with proper justification.

IV. The year wise production proposal in tabular format has not been furnished as per IBM manual for Appraisal of Mining plan 2014. So, it may be furnished.

V. Quantum of production and development may be described year wise with no. of benches, mRL, depth of excavation, direction of advancement, location and cross-section area considered.

VI. Bulk density of ore and recovery factor may be furnished in tabular format.

VII. Ultimate pit limit should be depicted on all relevant plans & sections in red colour.

VIII. Justification for site selection for first five year mining may be furnished.

IX. Handling of ROM produced from the mine to be dealt properly till its end use.

X. Drilling and blasting should be properly described.

XI. In page no.75, the "iron ore dump" may be replaced with "temporary mineral sorting yard". Based on threshold value of iron ore, the term "BHQ dump" may be replaced with either Subgrade/Mineral reject dump or Waste Dump.

4. MINE DRAINAGE

I. Considering the topography of the mining lease area comprising of valleys, hillocks etc the rainwater management plan, mine water management plan i.e., drainage plan for arresting solid wash off is not incorporated with engineering details. Therefore adequate rainwater and mine water management plan should be prepared incorporating engineering details & material to be used for erection/construction.

5. STACKING OF MINERAL REJECT/SUB GRADE AND DISPOSAL OF WASTE:

I. Before the proposed area is put in use for waste disposal, the area should be proved for non-mineralization. Also the site preparation works such as construction of retaining wall, check dam, plantation around proposed dump must be carried out and be completed well in advance. The area identified for waste disposal should be demarcated in relevant plans and sections.

II. Further, Build-up of dumps from year to year to be mentioned in text w.r.t. designed capacity of dumps, bottom and top mRL of individual terrace, dump slope, individual terrace height and slope with description of method & manner of disposal of waste should be mentioned preferably in tabular format..

III. Details of year wise proposal for construction of retaining wall, garland drain, settling tank etc. to be given with their location.

IV. From page no 82-84, the table showing separate BHQ excavation should be deleted. The provision of subgrade and waste part of BHQ may be included in iron ore excavation within the approved EC quantity for iron ore.

V. The yearly generation, utilization and storage mineral rejects should be shown separately in tabular format for iron ore, soap stone and quartzite based on the threshold value and cut off determined respectively.

6. USE OF MINERAL AND MINERAL REJECT

I. The chapter may be elaborately described. Also, in the table shown in page no.92, the column showing the IB% in ROM should be deleted and proportion of saleable part of ROM and mineral reject part of ROM may be recalculated and furnished as saleable part and mineral reject part constitute ROM Quantity.

7. PROGRESSIVE MINE CLOSURE PLAN

I. Amount of financial assurance should be calculated as per rule 27(1) of MCDR-2017 and submitted accordingly.

II. Organization chart to be furnished under Emergency Plan/Disaster Management

III. Environment baseline information may be elaborated.

8. PLATES (General):

i) All plans and sections should comply with the provisions of Rule 32 of MCDR 2017.

ii) The plans and sections submitted should bear the certificate that -the plans and sections are prepared based on the lease map authenticated by the state government.

iii) In all plans true north should be mentioned or if it is magnetic north then magnetic meridian and degree of declination should be mentioned with date.

iv) All plans and sections shall show a scale of the plan at least twenty five centimeters long and suitably subdivided. All plans & sections prepared shall follow the conventions mentioned under MMR 1961.

v) Wind direction may show through wind rose diagram in key plan and environmental plan.

vi) All plans and sections should be signed with date by Qualified Person & surveyor.

vii) The proposed bench mRL to be mentioned in the all plans and sections.

viii) The UPL should be shown in red colour in all relevant plans and sections.

ix) Approach road to lease area should be shown in key plan.

x) Date of survey should be given on plan and sections and the same should be signed with date.

xi) In Plate No. 06, 07, 09 etc the terminology "iron ore dump" may be replaced with temporary mineral processing/stacking yard etc. BHQ dump shown should be specifically written as OB Dump. Accordingly, the proposal of construction retaining wall and garland drain may be relooked and rectified.

xii) In Plate no.09, the area marked as mineral stack yard (iron ore) and sub grade stack yard (BHQ) may not be required or else the proper nomenclature of the area may be given. A place may be designated as iron ore subgrade dump and a temporary mineral sorting yard etc. The term subgrade stack of BHQ may be deleted. Accordingly, necessary modification may be done in other relevant plates and text document.

8.1.Surface Plan:

i) The UTM coordinates of boundary pillars may also be tabulated along with longitude/latitude.

ii) Surface plan needs to be updated with existing surface features as discussed in field. Information of boundary pillars in UTM coordinates as well as in Latitude and longitude of all ML boundary points should be depicted in tabulated form on surface plan.

iii) Few pillars may be correlated with some permanent ground features giving distance and bearing/direction.

8.2.Geological Plan & Section:

i) In the Geological Plan UNFC boundaries, UNFC codes, explored area, unexplored area, forest area, drilled boreholes and year wise proposed boreholes in relevant colors to be shown.

ii) The redefined UPL and UNFC boundaries along with UNFC code to be shown in Geological Plan and sections.

iii) The proposed boreholes to be plotted in dotted lines in Geological Sections along with Collar Id, RL and proposed closing depth at the bottom of the borehole.

iv) All the already drilled boreholes to be shown in all the relevant plans (Geological Plan, Surface plan, etc) and Geological sections. The year wise proposal for drilling to be shown in different contrasting color in Geological Plan and Geological sections. The year wise color of the boreholes proposed in Geological plan should match with the plotted proposed boreholes in Geological sections.

v) The proper UNFC boundaries and UNFC code to be shown in Geological sections.

vi) The index of Geological features should be same in both Geological Plan and Geological sections. The index of geological features/lithology should be changed. Proper hatching should be done in different color.

vii) The index of the Geological plan and sections to be revised indicating the index for year wise drilling proposal.

viii) In Geological Plan, cross section lines and longitudinal section line to be shown.

ix) Coordinates should be shown in x-axis of the geological sections.

8.3.Development plan & Section:

i) The position the working benches at the end of the year may be shown in next year development plan and sections in different colour code.

ii) The UPL may be redefined and benching pattern to be made in all development plans and sections.

8.4.Environment plan:

i) The Environment Plan as prepared should be satisfy the provision as laid down rule 32(5) (b) of MCDR 2017.

ii) The particulars with regard to items (ii), (iv) and (v) of Rule 32(5) (b) shall be applicable only up to sixty meters beyond the boundary of lease area. The same should be demarcated in Environment plan.

iii) The proposed environment protective measures to be shown in environment plan. The drainage pattern of the lease area also to be shown on the plan.

8.5.Financial Assurance Area Plan:

i. In the Financial Assurance plan area of each individual land i.e. land degradation due to mining activity and processing unit etc at the end of plan period may be shown separately on this plan with highlighted boundaries and different colour codes for FA calculation.

8.6.Reclamation Plan:

i. Reclamation plan has not been prepared as per guidelines. The necessary modification to be made as discussed in field during inspection.

ii. Year wise progress of dumping, stacks, afforestation using different colour codes for easy understanding may be shown.

8.7.Conceptual plan:

i. Conceptual plan may be prepared considering mineralization as revealed from the borehole logs. One longitudinal section may also be submitted. Direction of run off from the area based on surface contours may be shown on the plan and the sections.
