

भारत सरकार  
खान मंत्रालय  
भारतीय खान ब्यूरो  
क्षेत्रीय खान नियंत्रक का कार्यालय

No. MSM/OTFM/19-ORI/BHU/2016-17

Plot No. 149, Pokhariput  
Bhubaneswar – 751 020  
Date: 14.03.2017

To

Shri Ajay Patnaik, Director  
M/s B. D. Patnaik Minerals Pvt. Ltd,  
Plot No – H-12, Civil Township,  
Rourkela, Sundargarh,  
Odisha - 769004

Sub: Approval of Modification & Review of Mining Plan of Sarumuhan & Chunaghuti Limestone & Dolomite Mine along with Progressive Mine Closure Plan (PMCP), over an area of 44.742 ha in Sundargarh district of Odisha State, submitted by M/s B. D. Patnaik Minerals Pvt. Ltd under Rule 17 of MCR, 2016.

Ref: - i) Your letter No. Nil dated 08.02.2017.  
ii) This office letter of even no. dated 13.02.2017.

Sir,

This has reference to the letter cited above on the subject. The draft of Modification & Review of Mining Plan along with Progressive Mine Closure Plan (PMCP) has been examined in this office based on earlier site inspection carried out on 09.03.2017 by Shri Ramkishan R, Senior Assistant Controller of Mines and Shri Dilip Jain, Junoir Mining Geologist. The deficiencies observed are enclosed herewith as Annexure I.

You are advised to carry out the necessary modifications in the draft Modification & Review of Mining Plan along with Progressive Mine Closure Plan in the light of the contents vide Annexure I 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 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 Modification & 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 Modification & 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 modified copies of the Modification & Review of Mining Plan along with Progressive Mine Closure Plan. It may be noted that no extension of time in this regard will be entertained and the Modification & Review of Mining Plan along with Progressive Mine Closure 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.

भवदीय / yours faithfully,

  
(HARKESH MEENA)

क्षेत्रीय खान नियंत्रक / Regional controller of Mines



**Scrutiny comment on Modification of Mining Plan including PMCP in respect of Sarumuhan & Chunaghati Limestone and Dolomite Mine of M/s B.D. Patnaik Minerals Pvt. Limited over an area of 44.742 Hectare in Sundergarh district of Odisha State.**

Date of Inspection: 09.03.2017

**General:**

1. The document title shall be corrected as Modification of Mining plan under MCR 2016 and progressive mine closure plan as per MCDR 2017.
2. The details of plot number, khata number, Kissam, area etc . to be mentioned in the text over which surface right has been accorded.
3. As per rule 15 of MCR, 2016 'Mining plan' document should be prepared by qualified person. Hence, self-attested copy of qualification & experience certificates as required for qualified person to prepare mining plan under MCR'2016 should be enclosed.
4. As per copy of executed "Memorandum and Articles of association of M/s B.D. Patnaik Minerals Pvt. Ltd." there are six partners/directors in the company, whereas on page number 4, the names of only three directors are mentioned. Verify and rectify.
5. Documentary evidence shall be furnished regarding the outcome of the hearing related to lapsing of lease vide letter no:989/S&M, Bhubaneswar, dated 2/2/2017.
6. It is mentioned in page no.2 that due to market conditions mine operations was temporarily discontinued from 1998 to 2006. Documentary evidence Form D shall be enclosed. Permission from state government may be enclosed after opening from discontinuance.
7. Review of last approved mining plan /scheme of mining shall be furnished. Proper justification for deviation of exploration & afforestation programme shall be given. Status of compliance of violation pointed out by IBM, Suspension/closure/ prohibitory orders issued by statutory bodies under court of law and justification for modification of mining plan shall be furnished.

**Geology and Exploration:**

8. The reserve and resource is not estimated as per as per Minerals (Evidence of Mineral Content) Rule, 2015 dated 17/04/2015, same to be revised considering Minerals (Evidence of Mineral Content) Rule, 2015. Grade of reserve and resource mentioned in page 27 is not specific. +40% CaO might be considered as 70% CaO. Hence it must be specific and accordingly table on page number 21 may be revised.
9. Ore samples from the existing quarry and area considered for G1 & G2 shall be analyzed for chemical and mineralogical composition at NABL accredited Laboratory or Government laboratory or equivalent and the report shall be enclosed. The location of the same shall be depicted on geological plan.
10. As per last approved mining plan, the mineralisation factor was considered 55% however in present document same has been increased to 70% same may be justified. The assumption made for inner burden as 30%, 15% sub-grade ore in estimating the geological reserves shall be properly justified with documentary evidence.
11. The nature of inter-burden to be described viz., mineralogical composition, chemical analysis, density, etc. with documentary evidence.
12. Undertaking shall be given to complete the entire potentially mineralised area under G1 level with in a period of 5 years as per the rule 12 (4) of MCDR 2017. Accordingly proposal of exploration may be given.
13. Specific date to be mentioned on which Reserve & resource is estimated.



14. Documentary evidence in respect of bulk density (limestone) considered for total resource estimation of Limestone may be enclosed.
15. Area mentioned in table presented on page number 27(a) and 27(b) may be verified and rectify as it does not match with the x-sectional area of geological section.

**Mining:**

16. It is observed that proposed site for waste dump, mineral stack, etc. are not explored. Hence, proposal of exploration in these areas may be given in the first year of plan period and such area should be brought into use after proving non-mineralized. (to be mentioned in text part of the document).
17. All mining parameters like bench height, width, slope angles, drilling & blasting parameters etc. shall be furnished in tabular form.
18. Stripping ratio should be arrived after due consideration of Sub-grade/mineral reject material. Verify and rectify.
19. The individual bench slope is proposed to maintain at an angle of 70<sup>o</sup>-80<sup>o</sup>, however, same does not match with development sections. Verify and rectify.
20. In blasting parameters burden is seems to be more than spacing clarify and rectify.
21. Documentary evidence regarding the license of magazine for storing and use of explosives as per Explosives rule'2008 shall be enclosed.
22. Calculation with justification may be given for loading and hauling of material from mine with sufficient number of machinery.
23. Year-wise development plan and sections showing the individual benches configuration shall be enclosed.
24. **Conceptual Mine plan** should be upto the end of life of mine taking into consideration of the available reserve and resources describing the total excavation, Disposal of waste, Sub-grade generation and its beneficiation/utilization, mine development, manpower and equipment requirement, conceptual exploration, land degradation, waste required and its availability for back filling the ultimate pit, reclamation and rehabilitation, Proposal of any expansion, etc. showing on a plan with few relevant sections.
25. **Mine Drainage:** Describe regional and local drainage pattern. Also indicate annual rain fall, catchment area, and likely quantity of rain water to flow through lease area and arrangement for arresting solid wash off etc.
26. A drainage plan may be submitted showing the drainage pattern of the lease area and final discharge point of surface water during rainy season.
27. **Waster Usages:** The details like total water requirement in lease area, consumption for domestic purpose, existing and proposal for rain water harvesting, Use of stored water collected through rain water harvesting, total ground water withdraw, recycling of ground water, water treated through STP etc. to be given.

**Stacking of Mineral Reject and Disposal of Waste:**

28. It is observed that a fresh area is proposed for waste dumping, hence, dump site preparation plan may be discussed. Such area shall be brought into use after the site preparation is complete. Time bound proposal should be given for site preparation. Thus no fresh area shall be utilised for waste disposal unless site preparation and exploration is completed.
29. Indicate briefly the nature and quantity of top soil, overburden / waste and Mineral Reject to be disposed off as per table given in new format of appraisal of Mining plan-2014.
30. Protective measures may be proposed around Sub-grade and Soil stack to arrest any wash-off during rainy season.
31. It is envisaged that dolomite may be produced from the proposed development plan, keeping in view of that separate area may be earmarked for stacking of the same.



#### **Use of Mineral and Mineral Reject:**

32. Physical specification as specified by user industry/buyer may be mentioned.

#### **Processing of ROM and Mineral Reject:**

33. The approximate grade of final product and reject from crushing and screen plant to be mentioned in text as well as in flow sheet at each stage of processing.

34. As mentioned on page location of proposed dry screening and crushing plant needs to be shown in relevant plan.

#### **Progressive Mine closure Plan:**

35. It should be clarified that base line data collected & assessment done by which agency, period of data collection & assessment and whether it is conforming to the norms of MoEF. Documentry evidence to be submitted.

36. Mitigation measures of impacts associated with mining i.e. mainly related to air, water, noise, vibration, land, aesthetics etc. are not given properly. The same to be elaborated.

37. Location of environment monitoring station and schedule to be clearly mentioned in tabulated form.

38. The amount of financial assurance shall be calculated as per the guidelines given in rule 27 of MCDR 2017 notified in February 2017.

#### **Feasibility Study report:**

39. The feasibility study report to be prepared as per the part V of Mineral (Evidence of mineral content) Rules, 2015. Further, Proposed and actual capital expenditure to be given. Detail calculation of cost of production/operating cost to be given.

40. In the UNFC Pre-feasibility study: Economic evaluation of the project is not carried out properly. Thus following important parameters are to be dealt with:-

a. Assessment of IRR (Internal Rate of Return) and NPV for the project life.

b. IRR based on operating cost, reclamation/ rehabilitation cost, closure cost and other important parameters as per UNFC guidelines for the life of the project on the basis of ore body geometry, i.e., depth, width, length etc. as estimated and considered for reserve/ resource estimate.

c. Cash flow statement for the period considered for assessment of IRR.

d. Sensitivity analysis on cash flow due to market changes, i.e., cost of operation, sale price etc.

e. Market assessment has not carried out properly; it should include demand and supply, consumption trend and factor likely to affect the demand and supply into the future.

#### **Plates:**

41. General: All plans and sections should be signed with date by certified Surveyor, QP, Mining Engineer and Mining Geologist as per provisions of Rule 31 of MCDR, 2017 and Rule 66 of MMR, 1960.

42. UTM or WGS84 grid as per DGPS map may also be super-imposed in relevant plans for better comprehension.

43. **Surface Plan:** Coordinates of all the boundary pillar in the form of latitudes/ longitude and UTM WGS 84 should be depicted on surface plan.

44. The quarry height shown on the surface plan does not match with the actual field, need to be verified and rectified. Further, the location of existing mineral stack yard has not been shown on the plan.

45. **Geological plan and Section:** Geo-structural information like strike, dip, dip-direction, fault, fold and plunge etc. to be shown adequately.

46. Direction along which geological section have been drawn to be depicted on the sections. The color code/hatching used to display various lithology are not distinguishable, need to be reviewed.

47. Development Section: The slope of the quarry-2 shown on the section does not match with the field. Verify and rectify.

48. "Reclamation Plan" as per para 8.3.1 of "IBM manual for Mining Plan appraisal-2014" may be given.

49. **Key plan and Environment plan:** Key plan should be prepared as per provisions of Rule 32 (5) (a) MCDR, 2017.

**Enclosures:**

50. As the M/s B.D. Patnaik Minerals Pvt. Ltd is a private limited company registered under company act, hence resolution of board of director in respect of nominated owner is also required. Further, the resolution of Board of directors submitted seems to be incomplete, as all the directors/partners have not signed the resolution. Hence, a fresh resolution may be submitted along with signature proof of nominated owner Ajay Kumar Patnaik.

51. Photo id submitted for nominated owner is obscure; a legible copy of same may be submitted.

52. Some photograph of lease depicting important features like boundary pillar, Environment protective measure, Infrastructure, afforestation, etc. may be submitted.

53. Original lease deed copy may be enclosed.

54. A copy of surveyor certificate to be annexed as well

55. All the annexure to be properly numbered/paged and signed by QP.

56. Copy of Notice of appointment of nominated owner/agent/manager etc. as per provision of the rule 46 of MCDR, 2017 should be submitted.

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A. Patnaik  
24/8/17

Dr. Patnaik  
19/02/2017