

Scrutiny comments on examination of Review of Mining Plan with Progressive Mine Closure Plan in respect of Godhana Limestone Mine, Survey No-60/1 & 71/2 over an area of 86.65 hectares in village- Godhana, Taluka- Ranavav, District –Porbandar, Gujarat State submitted by the Shri R. Mukundan, Nominated Owner of M/s. Tata Chemicals Ltd under rule 17(2) of MCR,2016 & 23 of MCDR 2017 for five years excavation proposals from 2018-19 to 2022-23.

1. Reference of MCDR, 1998 given in all the certificates, text report, annexure, etc. may be changed in view of recently notified MCDR, 2017.
2. As per the Ministry of Ministry of Env. Forest & Climate change Notification dtd 28th April, 2017, the extent & boundaries of Eco-sensitive Zone shall be the peripheral area of 65.58 square km with an extent upto 4.76km around the boundary of Barda Wildlife Sanctuary. In this regard, appropriate map showing demarcation of this Eco-sensitive Zone & necessary letter from concerned State Govt. authority indicating the said ML area is outside this zone & permitted for further mining operations may be issued & submit the same in final submission.
3. Annexure-8D is referred as “copy of FMCP approval letter by IBM” is incorrect as this annexure is given for copy of approval of Scheme of Mining for the excavation proposal period from 2012-13 to 2016-17. Moreover, if the FMCP submitted & approved in the past if any may also be discussed. Simultaneously, whether the lessee had applied for withdrawal this FMCP or not should also be discussed.
4. Projection marked outside the ML area shall not be considered for the approval of this document except the projections shown on Environmental plan.
5. Final 3 copies of ROMP with PMCP and all required plans/sections should be given in single bounded text report manner to avoid misplacing of drawings and text report.
6. **Cover page-** Excavation proposals is incorrectly mentioned as “Period of proposals” which needs to be corrected. Further, excavation proposals may be reviewed in view of previous execution of mining lease period & subsequent blocks period. As this is captive mining lease hence this fact need to be highlighted on cover page.
7. **Introduction-** Mining operations were temporary closed since 2012 as the whole ML area was falling under Barada Sanctuary Zone and due to non-available of Environmental clearance but this facts neither discuss in the chapter nor any relevant documents have been furnished in this regard. Copy of Notification issued by concerned authority stating that the whole ML area is outside this BSZ & map showing demarcation of this BSZ may be enclosed.
8. **General:**
 - a. Under the contact details the given email ID appears to be incorrect & need to be rectified. Further, updated list of Board of Directors is not furnished. Further, workplace/mining lease correspondence address is not provided. (b) Cadastral map showing mining lease with DGPS co-ordinates of all BP as per the CCOM circular 02/2010/MCR/2016 duly authenticated by the CGM/SG need to be submitted for final approval of this document.
9. **Chapter-2: Location and Accessibility:**
 - a. Ownership of mining lease area as per Govt. revenue records is not given. Further, consolidated representation in term of “Land Schedule” for land type, ownership of land, etc. may be given separately. (b) Total 57 mining lease boundary pillars co-ordinates have been given. But, as pointed during site inspection few BP have been found as existing in the ML area. It may be stated that why all the BP not erected at site. Further, photographs of these BP may be enclosed.
10. **Chapter-3: Details of approved Mining Plan/Scheme of Mining:**
 - c. Para-3.1: Under the summary of earlier approved MPs, the period of excavation proposals of approved document is not mentioned. During approved MP period (2012-13 to 2016-17) no works have carried out but its reasons are not listed.
 - d. During temporary discontinuous environmental protection measures were proposed including afforestation, fencing, etc. but not carried out. Necessary justification may be given in this regard.
11. **Part A: Geology & Exploration:**
 - e. Future exploration proposals need to be given as per the rule 12(3) of MCDR, 2017 with an objective of bringing entire mineralized area under G1 category.
 - f. In local geology of the area, the depth persistence of mineralization is mentioned upto 11.0M (Max) which appears to be incorrect and only depth of mineralisation establish in working pit may be given or reference of BH may be given where maximum depth of limestone is encountered.
 - g. Page-15: Details of core boreholes drilled in the lease area is not supported with grid pattern, avg. borehole wise core recovery, date of commencement, etc. Further, future exploration is not given correctly. Some BH need to be proposed close to ML boundary in view of criteria of rule 12(3) of MCDR,2017 with an objective of bringing entire mineralized area under G1 category.

- a. In reserves estimation, the depth of mineralisation is considered from 4.20 to 15.50M. Whereas, as per BH nos. GDN/17 & GDN/25 maximum depth of mineralisation encountered as 11-12M then on what basis this 15.50 as maximum depth is considered. Justify.
- b. In reserves/resources estimation the quantity is categorised into Chemical, Marginal & Inferior grades of limestone. But, the avg. depth for these categories of estimation is not discussed anywhere in the chapter. Further, entire lease area is considered under proved category (III) which is not acceptable. Demarcation for proved category should be done over the plan & sections and only that much area may be considered under (III) category.
- c. Page-21: The illustration given for reserves & resources in the table are mismatching with the given details of reserves/resources as on 01/04/2012. Further, nomenclature of limestone for R&R also varying. Further, proper justification for change in specific gravity from 2.0 tonne/cum to 2.09 tonnes/cum may also be given.
- d. As the limestone categorised into Chemical, Marginal & Inferior grades, separate analysis report from NABL accredited laboratory of sufficient samples may be given separately.
- e. For reserves & resources estimation various parameters/constraints like Eco sensitive zone, power transmission line, canal and other statutory barriers are not considered & their separate calculations are also not given.
- f. Re-estimated Mineable reserves of chemical grade limestone (6.67 million tonnes), Marginal grade Lst (0.56 million tonnes) & Cement grade Lst (3.63 million tonnes) merely on the basis of change in specific gravity is not acceptable. Details sectional area wise calculations considering entire blocked reserves & other constraints need to be given in final submission.
- g. Feasibility report is not submitted at all. This is very important & essential component of Review of Mining Plan. This is very serious mistake on the counter part of Qualified Person which may be avoided in future.

12. Mining:

- a. Mining operations are temporary discontinues since last 5 years from 2012 but this fact has not been discussed and the reasons for this temporary discontinues is also not given. .
- b. Under the proposed method of mining exact location of crusher is not given. Further, given broad parameters are also needs to be reviewed. The annual avg. production is targeted at the tune of 8,00,000 tonnes per annum need to be reviewed in view existing EC approved ROM quantity only.
- c. Para-2(b),Page-24: It is mentioned that proposed excavation during the proposed plan period is Nil which is contradictory statement & need to be reviewed in view of given narration on previous pages.
- d. It is observed during mine inspection that, mining operations were being carried out unsystematically as undersized cement grade material & waste material stacks were haphazardly lying within lease area. Quantity of mineral stack available in mine and closing stock reported in return should be discussed & justify with supporting documents.
- e. As the area is close to Barada Wildlife Sanctuary, hence non blasting excavation restriction is to be adopted.
- f. In proposed production planning, mineral is to OB ratio not discussed. Bench wise RL projections for proposed production not given correctly. Further, various important aspects like generation of cement grade & inferior grade limestone either during mining operation or during manual sorting are also not discussed.
- g. Adequacy of man and machinery, calculation and its capacity should be discussed in correct manner and justify. Further, it should be clarified that HEMM used/proposed is own, hired or contractual basis with necessary supporting documents. Moreover, it is also noticed that lead factor is not considered while calculating the total required machineries. Requirement & calculation of all HEMM may be given tabulated manner.
- h. The quantity of undersized limestone generated so far within lease area & outside ML area in stack yard should be given. Further, its preservation and handling also need to be discussed separately.
- i. In proposed planning, production of Cement grade & inferior grade of limestone have not been given in spite its available reserves. Justify the same, why it has not considered under proposed production planning.
- j. Page-32-34: Conceptual mine planning is not given as per the guideline because adequacy of further exploration not given correctly. Further, as given the OB existing in the lease area but its generation at conceptual stage not exercised. A fact given about disposal of waste & top soil also seems to be incorrect. Present land use pattern pit, reclamation & rehabilitation aspects, conceptual land use pattern, etc. are not discussed in detailed manner.

13. Chapter 4: Stacking of Mineral Rejects/Sub-grade Material & Disposal of Waste:

As observed during site inspection, there were several small stacks of undersized limestone & inferior grade of limestone but systematic disposal & its utilization not discussed in the chapter. Further, discuss more about the plot outside ML to be used for ROM sorting.

14. **Chapter 5: Use of Mineral and Mineral rejects:** As mentioned, good amount of inferior grade of limestone reserves have been reported but its systematic utilization neither discussed during the proposed 5 production planning nor at the conceptual stage.
 15. **Others, Page-42:** Under the employment potential requirement skilled, semi-skilled persons and technical and non-technical persons are not given in detailed manner as per the prescribed rules. Appointment of mines manager, foreman, blaster, etc. not discussed.
 16. **Chapter: 8, PMCP**
 - a. Page-45: Land use pattern should be given as on date and proposed plan period up to 31.03.23 and till the mining lease period. Further, existing and proposed environmental protective measures should be given in tabulated form with supporting analysis reports.
 - b. During Impact assessment, monitoring schedule & relevant measures to mitigate Air, Water, Noise & Blast vibration pollutions/hazards are given but nowhere is it mentioned this work will be attended in-house or outsourced consultant.
 - c. Page-52, Item No-8.3: Afforestation proposed under the heading “management of worked out benches” need to be clarified more precisely in view of availability of cement & inferior grade limestone once chemical mineralisation exhausted. Further, looking into huge proposed production target, proposed afforestation target 200 sapling/annum appears to be unjustified. Environmental monitoring parts is also seems to be inappropriate. Proposal for restoration of mined out area should also be made.
 - d. Under the Financial Assurance total area of 2.0740 Ha considered as fully reclaimed & rehabilitated appears to be incorrect as the same was not noticed during the site inspection. Further, area calculation under the head “Road” which marked as –negative requirement of area also found incorrect. Financial area should be assessed correctly based on the actual area put to use as on date and subsequent additional area requirement during plan period.
- Plates:**
- a) All plan and section, text & tables should be modified based on above scrutiny.
 - b) Surface plan showing position of ground profile, pit position at the time of mine closed to be submitted.
 - c) Plans & sections are prepared on different scale without maintaining uniformity which is not acceptable.
 - d) In most of the plans & section RF (representative factor) is incorrectly mentioned as 2000:1.
17. **Cadastral maps:** Original copy of cadastral map marked with all co-ordinates of mining lease BP duly authenticated by the State Govt. authority should be produced for checking its authenticity.
 18. **Key Plan:** Index is defective as various prominent features not marked, Barda Sanctuary if any exist in the area should be marked precisely, village boundary, other ML area with name of lessee, etc. are also not marked correctly.
 19. **Surface plan:** Position of canal along southern side not marked correctly, stacks of sub-grade mineral with top elevation (mRLs) not shown correctly, along south-eats side of lease one check-dam was noticed which is not marked, statutory barriers all along canals, temple, high tension power transmission line, etc. have not been provided, working pits & waste dumps top mRLs have not been mentioned. Pit numbers not marked in bold fonts, position of HTL not marked correctly, some of the RLs of canals may also be provided.
 20. **Surface geological plan & Sections:** Working pits spot mRLs not assigned correctly, area under (III) level of exploration not marked precisely, statutory barriers all along canal, Elec. transmission line, temple not marked, waste material stocks with its top mRLs have not been marked correctly, ultimate pits limits not marked. Sections are not given on natural scale, depth of drilled BHs not mentioned, benches RLs mismatching in sections. Inferior grade Lst not marked in legend.
 21. **Year wise working part plan:** production planning need to be given in view of available mineable reserves only as on date, year wise development sections are not depicting with existing pits positions, ultimate pit limits not marked, section not given on natural scale & various minor corrections found in sections which may be rectified, in 5th year planning, excavation proposed up to marginal grade Lst. Above this excavation, there is Cement grade Lst so whether cement grade production is proposed or not to be clarified.
 22. **Environment plan:** Land use pattern with 500M zone not shown precisely, proposed afforestation/plantation not shown, monitoring stations in core & buffer zone not marked, wind rose diagram not shown, position of check dam as observed during site visit also not marked.
 23. **Conceptual plan:** Ultimate depth for all the pits not mentioned, environmental protective works like fencing at ultimate stage is not marked correctly, Sections are completely incorrect as not prepared on natural scale, lithology not marked, area towards North-West part is not considered under excavation planning, why? In some pits there is no approach to face has been shown.
 24. **Reclamation plan:** Para 8.3: the details of progressive mine closure plan is not depicted distinctly on plan. The year wise fencing is not legible, scale representation factor is incorrect, afforestation/plantation all along the existing nallah is not proposed.

25. **Financial Area Assurance Plan:** If possible pit wise broken-up area as on date may furnished over plan in hectares, proposed area to be broken up may be changed in view of above given scrutiny comments, additional area of 25.1830 Ha. as required during the plan period may also be checked thoroughly.
26. **Annexure:**
- a. Cadastral map showing granted mining lease area and its boundary pillars DGPS co-ordinates duly authenticated & duly signed by concerned SG authority need to be submitted in final submission.
 - b. Photographs of mining lease boundary pillars not enclosed.
 - c. Copy of original bank guarantee for extended period should be deposited in further submission for approval of this ROMP.
