

Scrutiny comments on examination of Mining Plan with Progressive Mine Closure Plan in respect of Mudhvay Limestone Area (Mudhvay Sub-block 'B' Auctioned Area for which LOI issued under rule 10(2) of Mineral Auction Rules, 2015), Survey No- various, over an area of 233.50 hectares in village- Mudhvay, Taluka- Lakhpat, District – Kachchh, Gujarat State submitted by Shri Ramakant Sharma, Nominated owner of M/s. Shree Limited under rule 16 of MCR,2016 & 23 of MCDR 2017 for five years excavation proposals from the date of execution.

1. **General points:** (a) the certificate in the Standard format from owner and qualified person should be prepared as per the guidelines and same should be enclosed under Part B of the plan. Standard guidelines for preparation of this MP may be followed in very precise manner. Headings, sub-headings, paras need to be differentiate in proper manner. Further, beginning of every new chapter may be started from new page. Projection marked outside the ML area shall not be considered for the approval of this document except the projections marked in Env. plan.
2. **Cover Page:** Excavation proposals for ensuing 5 years period for submitted draft Mining Plan is not furnished, survey nos. of auctioned LOI area are not furnished; mine code is also not mentioned.
1. **Introduction:** The past history of commencement of auction process from participation to successful bidder/LOI grant should be discussed with relevant supporting documents. Proposed location for cement plant need to be justified with suitable reasons & further, plant location should be outside lease area & on non-mineralized zone, supporting documents in respect of 3km buffer zone of Narayan Sarovar Wild life Sanctuary is 2km to south of the block may be submitted, the copy of ESZ notification dated 28/04/2017 regarding lease area falling outside Wild Life Sanctuary should be submitted.
2. **Chapter-1: General Information:** Para (f), regarding the professional experience of the qualified person is given as 31 years; however the experience certificate shows experience of 9 years. The remaining years' experience certificate may also be enclosed.
3. **Chapter-2: Location & Accessibility:** Under Para (d) the status of land showing the ownership from the competent authority should be enclosed. The enclosed khasra map/Annexure 8 is not authenticated from the competent authority of the State Government. Hence the fresh khasra map showing land status (7/12) should be enclosed, which is duly authenticated from the competent authority. During field observation, it was observed that, only common boundary pillars were erected, all the boundary pillars should be erected and Photographs lease pillars indicating its co-ordinates should be enclosed with the plan. CCOM's circular 2/2010 and its addendum dated 21-9-2011 regarding boundary pillars DGPS survey, superimposition of map etc. need to be attended.
4. **Chapter-3 (Part-A)- Geology & Exploration: Part A: Geology & Exploration:** (a) 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 and future exploration planning needs to be given accordingly. (b) Average quality of litho-units being encountered in the LOI area may be furnished separately in order to understand the quality of different litho-units. Table-4, Unconformity not marked correctly. (c) Page-23, Table-7: Under the details of exploration carried out in the auctioned area in the past is not incorporated with individual borehole wise details and activity has been furnished in composite manner which may be given separately for individual BHs. (d) Page-24, Table-8: Future exploration not given in correct manner as individual borehole wise specification including depth of hole, co-ordinates of BH location, etc. are not given. (e) Position of reserves & resources estimated by SURPAC block modelling as per the State Geological report should be given in concise tabulated manner. Further, qualified persons should adopt the same nomenclature/grade wise R&R estimation pattern as given in State Geological report. (f) The ultimate pit limit in the mining area and deepest availability of limestone mineral is considered in meticulous manner as the various constraints like ground water table likely to be intersected, various limestone quality parameters likely to be changed at lower level like increasing trend of SO₃%, Cl% etc. are also not discussed at all. (g) Reserves and resources estimation as per the cross section method may be given in order to understand R&R estimation aspects very clearly. (h) In whole Reserves & Resources estimation exercise various prominent & very important consideration like economical viability of this deposit in view of such huge overburden, likely ore:OB ratio, possibility of intersection of ground water, necessary permission required in case working below ground water table, etc. not discussed under the feasibility part of this text report. (i) Detailed calculations for estimation of probable category (122) reserves as 265 million tonnes and blocked prefeasibility resources (222) i.e. 36.50 million tonnes have not been given separately. (j) Page-29: Incorrect narrations have given which reproduced as "As on date the viability of using Rock breaker/surface miner is not feasible due to greater hardness of limestone of the block". Further, shifting of electric line is also discussed in spite of there is such electric line in the area. Justify the given facts. (k) Applied LOI area is in close proximity of coastal area and role of role of ground water table plays very vital role in re-estimation of reserves and resources. Accordingly, reserves & resources need to be estimated above the ground water table and below ground water table. But, this aspect is neither discussed nor any supporting hydrogeological report is enclosed. (l) The entire limestone deposit quality has been divided into five categories to facilitate the production and mineral conservation of mineral. But, blending scenario of these different grades of mineral to meet the desired feed limestone quality is not discussed. (m) Ultimate depth of mineralisation considered for reserves/resource estimation is not discussed at all in the chapter. Further, huge amount of overburden is proposed to be encountered from the area. But, variable depth of OB

based on the exploratory drilling being encountered is neither discussed in estimation of R&R nor in excavation planning. Further, analysis report of overburden may also be provided in final submission. (n) Feasibility report is not prepared taking into consideration of various important aspects like handling of such huge OB, OB handling clubbed with direct mining coast should be made separately, Economic viability not discussed in light of different anticipated constraints in LOI area like final product handling from applied area to plant location, availability other additive minerals, etc.

5. **Chapter 2: Mining:** Under Para (a), Page 30: it is mentioned that the thickness of the overburden is 0 to 3 m , however this is not consistent as per the Geology mentioned under the previous chapter. (b) Under the proposed method of mining, different bench, ramp, haul road configuration are given which need to be justified in view of its applicability. (c) The proposed pit should be given proper nomenclature and same should be referred under the table No.13 and at all the relevant places. (d) The basis for specific gravity considered for soil, overburden, and limestone should be justified and may be supported with documentary evidence like test report. (e) The feasibility study for deploying Surface miner may also be carried out considering the hardness of the ground and other parameters. (f) During field observation, it was observed that drainage/nallah is passing through the lease and same has not been marked on the plans. Accordingly the entire mining proposal should be given leaving the statutory barrier around the drain. (g) Page-33,34: The detailed calculation of yearly ROM production & development handling should be discussed & given with proposed Latitude & Longitude, top & bottom RLs, etc. (h) Page-33-36: the mine design parameters should be discussed with Geo-technical studies of OB/Clay/rock benches up to -56mRL depth & scientific study should be carried out & submitted. (i) For the proposed method of working, design parameters of working benches in OB as well as in Limestone, slope of working pit, haul road configuration, etc. should be supported with proposal of carrying of Geo-technical studies may be given (j) As per the BH logs maximum 45-50m depth of OB is reported, in this situation, how the mine design, bench configuration, pit slope will be maintained need to be discussed precisely in view of very less LOI awarded area. (k) The statutory barrier of 50m from existing HT power transmission line, public road, nallah if any should be shown & leaving as per the provision of MCR 1960 (l) excavation is proposed by both conventional as well as by non-conventional method. The same should be justified considering the present scenario of LOI area. (m) Bench slice plans are to be enclosed, since it is category FM mine with production exceeding 1.0 million tonnes per annum and also due to assessment of reserves & resource by SURPAC block models.
6. **Conceptual Mine Planning:** (a) The tentative conceptual mining should be discussed in the text up to life of mine/lease period based upon above scrutiny comments. (b) It is mentioned that total 85 BHs proposed during first two year of mine plan but this figures mismatching with the proposals given Geology & exploration chapter. (c) The present land use pattern is not given as on date and further same should be given for plan period/conceptual/lease period by considering 5 yrs block period (d) The conceptual period of mining proposals as shown in plan & sections should be discussed in the text in tabular form. (e) Excavation proposals including various bench parameters, ultimate slope of pits, mines hauls road configuration, etc. may be discussed (f) The excavation proposals below water table should be as per Hydrogeological study report recommendations only (g) Proper justification for consideration of ultimate depth of Pit as -70mRL need to be given (h) Location of dump as marked over plan for waste disposal appears to be incorrect and either it temporary or permanent nature need to be clarified as the dumping proposed on mineralised area. Further, proposed dump parameters like slope of dump, provision of garland drain, etc. is also not discussed. (i) year wise environmental protective measures should be discussed & proposed in plan & conceptual period in core
7. **Chapter 3: Mine Drainage :** (a) Page-46, The copy of report of Water table of area of 13m bgl in the surrounding as taken from "Ground water year book" West Central Region, Ahmadabad Dec.,2016 may be submitted in the form of annexure. (b) The mining proposals up to maximum depth of -56mRL should be discussed properly and supported with all precaution measures (c) The drainage should be planned in such a manner that silt is prevented from discharging in the drain. (d) Under Para(c), it is mentioned that no seasonal drain exist in the area, which is contradictory statement. (e) The proposal for carrying out Hydro-geological study and report should be submitted before commencement of mining operations/actual excavation (f) The water balance chart should be discussed upon inrush of flow of water & outgoing pumping/discharge arrangements.(g) It is wrongly mentioned that no seasonal drains exist in the area where as one small nallah was noticed during site inspection.
8. **Chapter 4: Stacking of Mineral Rejects/Sub-grade Material & Disposal of Waste:** (a) the proposed location of the proposed external dumps may be given with its coordinates. (b) Further the location of the earmarked stacks may also be given, the parapet wall should also be proposed around the stacks in order to prevent its erosion. (c) Year wise dumping/stacks locations and its position to be properly marked on the relevant plans (d) the dumping should be proposed in one corner of the lease and not in the center as given in the proposal, so that systematic mining is carried out.
9. **Chapter 5: Use of Mineral & Mineral Rejects:** Sufficient number of chemical analysis reports of OB/waste/mineral rejects, ROM, etc. should be given from NABL lab. Only duly signed by authorized person with date & place (b) detailed physical as well as chemical specification of Limestone may be given in tabular form. (c) Justification to adopt the CaCO₃

formula for preparing the pile may be given. Further, it is mentioned that, there is no subgrade and all the material above threshold shall be utilized for cement manufacture. Justify the same.

10. **Chapter 5: Use of Mineral & Mineral Rejects & Other:** (a) The screen waste/mineral rejects separated by screening system including its systematic disposal need to be highlighted more precisely (b) Location for dumping of screen reject may also be marked over all relevant plans.(c) Employment potential as per prevailing rules may be given.
11. **Chapter 6: PMCP:** (a) All the changes suggested above may also be taken in the PMCP (b) Under Para 8.2: The air, water, noise analysis report of the latest season may be given and reports may be enclosed and reference of the same should be mentioned under this para. The impact of mining and beneficiation may also be described properly (c) As mentioned, environmental monitoring details have been collected for one season, hence separate analysis reports may be given (d) Para-8.3.5: Under the year wise protective measures the proposals & subsequent expenditure to be incurred are on environmental monitoring, dump management, nos. of plantation, etc. are not given. (e) The year wise environmental protective measures /afforestation/plantation, etc. as per MoEF & CC Pollution Control Board guidelines should be proposed within 7.5m statutory barriers with suitable protective measures/water pipe line arrangements/dump retaining wall, etc. should be proposed.
12. **Financial Assurance: Page-80,** the mining plan shall be submitted with Bank Guarantee @ Rs. 3 lakh per Ha for the mining activities put to use for mining and allied activities as required under the Rule 27 of the Mineral Conservation and Development Rule 2017.
13. **Plans & Sections:** (a) The plan & section should be modified & updated plates as per above scrutiny & provision of appraisal of mining plan, 2014 & Rule 32 of MCDR, 2017 in further submission.(b) All the plans and section should be prepared as per the latest survey of the area, Given Progressive mine closure plan is not required as per appraisal of Mining Plan guideline, 2014.
 1. **Key Plan:** it should be prepared as per Rule 32(5)(a) of MCDR, 2017 showing all the surface features distinctly. Land use status i.e. Govt. land, Private land (Santhani Land), Forest land, etc. must be shown by different colour code. Narayan Sarovar, Eco sensitive zone, etc. should be marked prominently.
 2. **Surface plan :** One small nallah passing along north-west side of area not marked, It was observed during inspection that, no boundary pillars were erected which need to be attended, The statutory barrier all along electric transmission line, public road, Nallah, etc. if existed in LOI area should be shown & leaving barrier as per provision of MCR, 2016, The area has not been connected with three fixed reference ground points by DGPS.
 3. **Surface Geological plan & Sections:** Surface geology/litho-units marked over plans & sections appears to be incorrect, area explored under G2 level of exploration not marked, strike-dip of the formation/litho-units not shown, Index is defective as various prominent features are not shown, G2 level explored area not marked correctly over section, lithology as marked in all the sections not in line with drilled borehole logs & intercalated clay/shale bands not shown.
 4. **Production & Development Plans & Sections:** The production proposals should be given within interpolations of extreme borehole & true depth persistent of boreholes. Year wise exploration to be taken up need to be marked in different colour & same should be shown in respective plans. Development plans & sections are not prepared correctly as excavation proposals marked as box cut appears to be incorrect, position of temporary OB dumps at centre of the area is also incorrect, green belt development also not marked correctly, Proposed OB dump not marked with projected mRLs. Further, there is no proposal of approach road for transportation of material, selection of section line is also incorrect as whole excavation, dumping, etc. are not covered under single section line. Approach to propose faces, direction of advancement, slope of faces have not been shown clearly.
 5. **Conceptual Plan:** The pit position at the end of the plan period and subsequent conceptual period should be marked with ultimate depth of excavation. In whole plan there are no proposals of mine haul road at conceptual stage, section is completely incorrect as the whole excavation proposals are not covered in single cross section line so the longitudinal section may be given, scale of plan 1:5000 is also not correct as per guidelines.
 6. **Environment plan:** The plan has not been prepared incorporating all details as per rule 32(5)(b) of MCDR'2017 as land use pattern within 500Mts zone are not marked covering details of population, village boundary, etc. Position of the OB dumps at centre of the area also appears to be incorrect. Narayan Sarovar Dam, Nallah, Eco sensitive zone, etc. should also be marked.

7. **Reclamation plan:** Para 8.3: the details of progressive mine closure plan is not depicted distinctly on plan. The year wise fencing, year wise plantation, Environmental monitoring stations, garland drains, etc. have not been shown properly. Further, to be reclaimed if any may also be shown separately.
8. **Financial Assurance plan:** Existing pit wise broken up area is not mentioned on plan, FA plan should be prepared by showing year wise area broken up at the start of Plan period & additional area requirement during proposed plan period.

14. **Other points:**

- a. Expenditure to be incurred in CSR Activities on year to year basis are to be given.
- b. If mine waste is not planned to be disposed as back filling in near future then there should be a proposal for confinement & stabilization of the Dump
- c. KML File of the lease are should also be incorporated
- d. Representative photographs showing pre-mining status are also to be incorporated

15. **Annexure:**

1. All the supporting documents from first grant of LOI area to till date related to auctioned area should be furnished in chronological order.
2. The latest chemical analysis report of ROM/OB/Mineral reject/Waste, etc. in the proposed area should be submitted from NABL accredited Laboratory.
3. Copy of coloured lease boundary pillars with its number, mRLs, Latitude & Longitude as specified marked on it should be submitted.
4. Pertaining to the private land, revenue records in the form of 7/12 along with detailed land schedule may be submitted.
5. The further submission of final document should be given in proper binding and plates are properly folded so that it can be accessed easily.

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