

Scrutiny comments in respect of Velguem-Surla iron ore mine (Amalgamated-4 leases), T.C.No.-83/52,29/54,19/58,62B/52,Area-286.6193Ha.situated in Velguem, Surla, Sonus & vonvolim-villages, Bicholim & Sattari-Taluka, North Goa-Distt. of Goa-State for approval of Modification of Mining Plan under rule 17(3) of MCR, 2016 for the block period 2013-14 to 2017-18 & approval period of 2016-17 to 2017-18 of M/s V. M. Salgaocar & Bro. Pvt. Ltd.

Certificate- The date & place on certificate should be given.

Introduction- The aforesaid modification in mining plan is submitted for amalgamation of mining leases & further enhancement of production cap for the remaining period of Feb.2017 to March, 2017 should be discussed. The permission from Chief Controller of Mines, IBM, Nagpur for change in scale of plan & section should be submitted in further submission.

Location & Accessibility- The surface rights of land used is presently held with lessee or not, is not discussed.

Details of approved MP/SOM- The date & reference of earlier approved mining plan along with supporting document should be submitted. The review chapter should be discussed up to Jan.2017 along with justified reason of all four mining leases instead of 2015-16. The production & development quantity proposed i.e. Latitude & Longitude /RL/area etc. as per approved MP/MS & actual work done should be given & discussed in tabular form as per plan & section.

The copies of violation/show-cause notice issued by this office & their reply should be discussed along with supporting documents. The overall feasibility report of all mining leases should be submitted with suitably linked to the reserves estimated with latest economic parameters with IRR & viability of project.

The quality & quantity of excavated ore lying in the lease area for auctioning by state Govt.should be discussed in brief , if any. The remaining grade wise stock of auctioned ore available in mining lease area as on date should be mentioned.

Geology

- Para 1.e: Earlier exploration carried out so far in the lease area should be summarized as per table below and given in the text.

Total Lease area:						
Item of information	Lease area explored as per UNFC norms (in Ha) as on dt...					Remarks/Comments including reasons for not carrying out the exploration as per UNFC norms.
	Total Lease area = A+B+C+D+E					
	G1 Level	G2 Level	G3 Level	Explored and found non-mineralized with level of exploration (Remarks)	Unexplored lease area	
	A	B	C	D	E	
Area as per level of exploration						
No. of BH Drilled						
No. of BH considered for Resource Estimation.						
Meterage Drilled						
Grid Interval						

Scale of Mapping						
Reserve estimated after above exploration as on dated :						
Remaining Resource after above exploration as on dated:						
Total Reserve/Resource after above exploration as on dated:						

- Detailed estimation sheet for reserve and resources need to be furnished showing sectional area as per UNFC category, influence, BD, recovery factor, location on plan & sections etc. The basis of bulk density and recovery factor should be given on the field tests conducted for different grade of minerals. Test result on moisture contents may also be included. Cut-off grade based on international/domestic market conditions, mining and processing losses i.e. generation of tailing etc may also be considered for estimation of reserves & resources.
- Detailed estimation table for reserves & resources as per UNFC has to be given in text. Minerals (Evidence of Mineral Contents) Rules 2015 has to be followed for exploration grid interval for UNFC reserves & resources estimation. Beyond & below the depth of boreholes, it should be considered as resources as per above said rule.
- Additional exploration is to be proposed to know the continuity of ore in depths and to complete the exploration as per UNFC compliance has to be planned. Many sections are not having sufficient Boreholes and many boreholes are in complete to find out the contact zone.
- Page-15:- Achieved Production & development for 2016-2017, total sum is wrongly given. Outsourced Prospecting agency name has to give in Page-27.
- Geological reserves & Resources have to be shown in table to compare as per previous approved plan and as on now. How much reserve has increased or depleted to be explained. Instead of 01.04.2016, it should be shown as 01.01.2017.
- Using single Boreholes or without boreholes, section has drawn and ore is considered as G-1, as per Minerals (Evidence of Mineral Contents) Rules 2015, it has to consider as resources only.
- Reserves table is not updated because the reserves quantity is from 01.04.2016. Hence, the achieved production of intervening period has to be deducted from the reserves.
- In Lease 19/58, ore has achieved 304894 tons against propose quantity of 256000 tons during 2015-16, whereas there is no production bench movement in field & in plan when compare to previous approved document.

Mining:- Page-55, A small introductory para of existing pit dimension, dumps with number of benches in ore & waste, No.of mining pits, EC, nearest distance from WLS/NP etc. should be given. Page-55, 56, Instead of referring plate no.5 surface plan & production & development plan plate no.8A-8D of mining proposal in plan & conceptual period, same should be discussed in table & text with latitude, longitude, top & bottom RL, area etc. As per production & development section & estimated quantity is seemed to be incorrect. (S350, plate-8D). The longitudinal section of proposed working of 2016-17 & 2017-18 should be submitted.

The pit wise remaining quantity to be achieved with in short span of time i.e. Feb., 17 to march, 17 should only be proposed in table No.21 instead of entire capping quantity of 2016-17. The achieved ROM production quantity till Jan., 2017 should also be discussed The optimization of man & machinery & proposed no of working faces, shifts, advancement of faces & effective working hours/shift etc. should also be discussed.

The proposed mine workings/ dumping/stacking should be 100m away from existing pit edge as per DGMS guideline. The UPL should be modified by leaving statutory barrier of nallah, road, HT power line etc.

Page-57, 58 the dump re-handling quantity with proposed location, RL, latitude, longitude, area should be mentioned. Total tentative excavation in insitu & dump re-handling should be given separately in tabular form. It should be discussed & justified the grade of recovery of ROM during dump re-handling. The stripping ratio should be given on insitu excavation only. The recovery/re-handling of dumps OML is not required. The quantity & grade of existing dump with in amalgamated lease area should be given.

Page-58, para-c) Instead of referring plate no. 8A to 8D of mining proposal in Plan & conceptual period, same should be discussed in table & text with latitude, longitude, top & bottom RL, area etc. as proposed in plan & section. Page-59, table-25, area is left blank.

Page-58, Para-e) the year wise proposed approach road up to working faces should be discussed. The year wise proposed production & development benches should be shown by leaving 100m safety distance from existing dump/pit edge as per DGMS guidelines.

The bulk density considered for ore and waste of all leases also needs to be indicated. The recovery of ore should be discussed and justified, in plan & conceptual period. The total proposed ROM should not be more than annual capping limit for all the four leases.

Page-60-64 para-f) the year wise proposed ROM production & development location with latitude & longitude, co-ordinate, top & bottom RL of benches should be given in tabular form up to conceptual stage of mining as shown in plan & sections. The optimum/overall pit slope should be discussed & justified based on scientific study done etc.

Page-66, Mine drainage-The copy of hydrological report should be enclosed in further submission if any & abstract should be discussed in relevant para. Page-66, Para-C) should be discussed in details. Page-69, lateritic ore of above 45%Fe (here 47.7%Fe) should be consider in ROM only. It needs correction.

Page-70-Use of mineral & mineral rejects- It should be discussed in brief regarding utilization of mineral reject /sub grade ore, (+45%Fe to -58%Fe) because as per buyers specification subgrade in not desired for use & cut off grade is very high. Year-wise generation of mineral rejects & their location should be discussed & shown. Page-74, flow chart of beneficiation plan should be shown clearly by different colours.

Page-81, the adequacy of statutory manpower should be given as per MMR, 1961/MCDR, 88.

Page-81-PMCP- The land use details should be mentioned correctly as on 01.2.2017, plan period up to 31.3.2018 & conceptual period up to 21.11.2027. The baseline information, environment impact assessment & EMP should be discussed in all four lease based upon the supporting document etc.

Page-74, financial assurance-The mineral stack etc. & proposed approach road etc should be given separately in table & The break-up of land used details is not matching with earlier approved plan. Reconcile & submit correctly.

All plan and section, text & tables should be modified based upon above scrutiny points and should be duly signed by RQP or authorised persons on every page.

Plates:

- List of plate nos mentioned is mismatching with plan & section. Date of Survey has to be updated; Plan & Section is not updated from previous approved plan.
- An attempt may be made to prepare slice plans for estimation of reserves & resources due to complex deposit with intrusion and shape of the mineralised zone etc. Refer sub-para-k of Part-A Geology & Exploration of universal format for Mining Plan.
- Dump in Southern part of Lease area nearer to Boundary Pillar-12, but the details is not discussed any text part.
- Geological Section & Longitude section are mismatching with each other's, i.e, BH-V/9/D is on powdery ore as per Geological Section whereas it on Mn Clay in L.S. all the boreholes has to recheck.
- All sections Lateral and vertical extrapolation of borehole is not allowed for G-1/G-2 category; accordingly all the sections may be modified for showing UNFC reserves category.
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- All the drilled boreholes have to be shown in section, i.e, BH-CG/8.5/D not in sections, but in plan & longitudinal section it's present. Geological Cross Section & Longitudinal section are mismatching i.e, in BH-CG/2.0/D has closed at Limonitic ore in Geological section & Mn Clay in longitudinal sections.
- Section also mismatching more when compares to approved plan, certain section has new boreholes in W-560, last year entire section has overlying formation whereas this year same section has enormous powdery ore in W-595. Hence Plan & sections has to draw based on original filed data and borehole logs for all sections.

Plan & sections:-Key Plan: Land use status i.e. Govt. land, private land & forest land and other leases etc must be shown by different colour code.

Surface Plan: The adjacent lease area features should not be shown, only instant lease area surface features should be shown by effective colour code. The plan should be modified by showing effective large text font, of boreholes, RL, mineralized & non-mineralized area line, forest boundary line, water logged pit area, HT power line & their capacity, mineral reject/subgrade & auctioned ore & different roads should be clearly shown by different colour code to distinguish properly. The type of land as agriculture; grazing, waste etc. should be shown.

Production & development plan & section- All scrutiny as pointed out in surface plan should be attended & shown effectively. Adjacent lease area features/ proposals should not be shown. The proposed location of year wise temporary dumping, working sections with benches & levels etc. should be shown properly on plan & section as discussed in text. The proposed working area, pit should be 100m away from existing dump edge as per DGMS guidelines.

Environment Plan: It should be highlighted & large font of the existing environmental protective measures/reclaimed area. The plan should be prepared as per rule 28(5)(b) of MCDR 88 to show other detail population, village boundary, types of land etc.

Conceptual plan- The land use table as on 01.2.2017, plan period & conceptual stage up to 21.11.2027 with different colour code should be given & correlated with text. The other relevant feature as discussed in surface plan/production & development plan & text should be attended

Reclamation plan- all existing/proposed protective measures should be effectively shown. The other relevant feature as discussed in surface plan/production & development plan & text should be attended.

Financial assurance area plan: The land use table as on 01.2.2017, plan period with different colour code should be given & correlated with text. The break-up of area should be matching with text & separately demarcated. The other relevant feature as discussed in surface plan/production & development plan & text should be attended.

Annexure:

1. The nearest distance of mining lease from NP/WLS/ESZ, revised annual production capping should be given based on documentary evidence & should be enclosed in the form of annexure.
2. The latest copy of Form-I&XIV (Land record) as supporting document should be submitted in further submission.
3. The latest chemical analysis report of ore/mineral rejects etc. should be submitted from an NABL accredited Laboratory.
4. The copy of borehole logs with details and duly signed by concerned geologist should be given in further submission.
5. Field photographs of present mine workings, protective measures etc. should be submitted. The copy of enclosed workings is old.
6. Latest quarterly monitoring report on air, water & noise should be enclosed as per category of the mine for last 2-3 quarters.
7. The copy of original valid BG of extended period of amalgamated lease area should be submitted in the form of annexure.
