CHAPTER-V

5.0 USE OF MINERAL AND MINERAL REJECT

(a) Requirement of end use industry specifically in terms of physical & chemical composition.

Ore available in the area are both salable grade containing >58% Fe and Mineral Reject with 45 to 58% Fe. Hard massive, hard laminated, soft laminated, iron ore fines, blue dust and iron containing lateralized and ferruginous laterite ore are available in the lease, which are mined out. The entire ROM is processed though crushing & screening facilities. The 100% output is transported to ore stacking yard where those are subjected to disintegration both grade and size wise. Ore and MR are stacked at their ear marked location and IB is shifted to dump yard As per demand of market, different size and grade ore are dispatched In case size and/or specification of ore is in demand by other industries, the lessee blend different grade ore and MR for supplying required grade of ore around >58% Fe.

(b) Requirement of intermediate industries involved in up-gradation of mineral before its end-use.

The intermediate industries involved in the up-gradation of mineral before its end use is crushing and screening unit, beneficiation plant, etc. ROM iron ore will be crushed and screened in the M.L area to cater the need of buyers in respect of size and grade. Practically, there will be no mineral rejects after blending However, as per requirement of buyers like BRPL, ESSAR, low grade fines/screen fines will be supplied to lessen stack within the mines.

(c) Requirements for other industries, captive consumption, export, associated industrial use etc. Requirement of other industries

Sl. No.	constituents	DRI Grade	Sinter grade
1	Fe	60% Fe to 63.5% Fe.	60.0 to 63.50%
2	SiO_2 + Al_2O_3	5% Max.	5% Max.
3	CaO + MgO	2% Max.	-
4	P	0.07% Max.	0.07% Max
5	S	0.03% Max.	0.03% Max
6	Size	(5 – 20) mm	(0-10)mm
7	+ 10mm	-	5.0% Max.
8	- 100 Mesh	-	25% Max.

Export:

Presently, the iron produced from the lease area is used in the domestic industries. In future if required the Iron ore will be supplied in the Export market with permission from concerned authorities

Associated industrial use:

Iron ore produced from the lease hold are mainly used in the steel industry, Ferro manganese industry, Ferro silicon plant, etc

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(d) Precise physical and chemical specification stipulated by buyers

Parameters	Chemical Constituent (%)	
	I	II
Fe	64-65.0	63-64.0
SiO_2	2.0	3.0
Al_2O_3	2.0	2.0
Al_2O_3 + SiO_2	6.5 max	8.0 max
Al_2O_3, SiO_2	1.5 max	---
P	0.05	0.05 max
S	0.02 max	0.02 max
Cu	0.01 max	0.01 max
Moisture	5 max	5 max
Size	05-18 mm	- 5 mm
Blue Dust		
Size	-	Below 5mm
Fe	-	63% to 65%
Al_2O_3	-	3%(max)
SiO_2	-	3.5 % (max)
SiO_2 + Al_2O_3	-	6.5 % (max)
P	-	0.05 %
S	-	0.02 %
C4	-	0.01 %
Pb	-	Trace
Total of other metal	-	(Except Mn, Mg, Ca) :0.1%
Moisture	-	5%(max)

(e) Processes adopted to upgrade the ROM to suit the user requirements.

For supplying to intermediate industries screening/up-gradation of minerals are done with one 175 TPH mobile screening plant. The facility is located inside the mines. Part of the sized ore after processing is dispatched to the steel plant of the lessee's sister concern MGM Minerals Ltd (Steel Division) at Dhenkanal in Odisha State and the rest of the ore including the fines ore which are supplied to indigenous user industries.

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