

**REPORT ON CHECK INSPECTION OF KOIRA IRON MINES OF M/s. ESSEL
MINING & IND. LTD. IN SUNDERGARH DISTRICT OF ODISHA STATE
[PREPARED IN THE FORMAT, PRESCRIBED VIDE CCOM'S LETTER NO.
11013/35/MP/MISC/89-CCOM (Vol. III)]**

Name and designation of inspecting officer : Shri Harkesh Meena, RCOM

Date of Inspection : 17.03.2018

1. General information of the mine

(i) Name of the mine : KOIRA IRON MINES

(ii) Lessee : M/s. ESSEL MINING & IND. LTD.

(iii) Nominated owner : Shri Ashwin Kothari

(iv) Mining Engineer : Shri Rajesh Kumar Patel

(v) Agent : Shri V. Srikanth

(vi) Mine Manager : Shri Shatrujit Kumar

(vii) Lease area : 90.143 Ha

(viii) Location : In villages Koira, Nuagaon,
Harishchandrapur, Kadodihi, Dist-
Sundargarh

(ix) Lease period : 50 years valid up to 26.08.2021

(x) Date of Expiry : 26.08.2021

(xi) Date of approval of Mining Plan : 27.02.2007

(xii) Date of approval of Review of Mining Plan : 03.11.2016

Plan

(xiii) Period of Mining Plan/ Review of Mining Plan : 2016-17 to 2020-21

Mining Plan

(xiv) Production

Year	Proposed in Tonnes	Actual in Tonnes
2016-17	4000000	3995684
2017-18 (up to Feb'18)	4000000	3241141

2. Brief description of the mine:

(a) A brief description of the mine covering location, geology, problems associated with mining of the deposit etc.

(1) Location:

The mine is located on villages Koira, Nuagaon, Harishchandrapur, Kadodihi, Dist-Sundargarh, of Odisha State.

The mine falls in the Survey of India Topo sheet No. 73 G/1 between latitude 21°53'42.58572" to 21°54'27.61380" N and longitude 85°13'07.73544" to 85°14'04.07976" E.

(2) Geology:

The Koira Iron Mines lease area forms a part which exposes the Iron Ore Group of rocks of Pre Cambrian age. The Iron Ore Group is represented by basic volcanic, pyroclastics, banded Iron formation, manganiferous shale / phyllite, sandstone and conglomerates. This volcano sedimentary sequence is developed by flanking the Singhbhum granite to the east, west, south & partly also north. The relationship between Singhbhum granite and Iron ore group of rocks is not yet fully established.

The Iron Ore Group of rocks of Jamda – Koira valley, exhibit a Synclinorium structure which can generalize as a NNE-SSW trending low plunging synclinorium with an overturned western cross fold. Although the rocks have been affected by multiple deformations, evidence of significant regional metamorphism are absent.

The banded Iron formation of this group forms highly elevated ridges and the valleys are occupied by volcanic and sediments. Because of weathering and supergene enrichment process, the banded Iron formation is capped by ferruginous laterite and at places by rich Iron ores. Locally the manganiferous shale also produced supergene manganese deposits, which are manifested in the form of hillocks in between two hill ranges occurring in the valley portion.

(3) Problems associated with mining of the deposit etc.: No significant problems

(b) Description on deployment of mining machinery

Sl. No.	Machineries deployed	Capacity	Number of units	In use	Idle	Percentage of utilization	Brief description	Remarks
1	2	3	4	5	6	7	8	9
1	Back Hoes	Less than 2.1 cm	13	13	0	100%	Diesel Engine	Most of the machineries are in use.
2	Front End Loader	1.16 to 2.30	7	7	0	100%	Diesel Engine	
3	Water Sprinkler	28 KL	2	1	1	50%	Diesel Engine	
4	Dumpers	20 to 30 tn	28	28	0	100%	Diesel Engine	

5	Drills / Blast Holes	101 to 150 in mm	2	1	1	50%	Pneumatic Machine
6	Bull Dozers	301 to 400 Hp	2	2	0	100%	Diesel Engine
7	Motor Graders	101 to 200	1	1	0	100%	Diesel Engine
8	Crushers	101 TO 300	1	1	0	100%	Electric Operated
9	Explosive Van	Closed Body	1	1	0	100%	Diesel Engine
10	HSD Bowser	8 KL	1	1	0	100%	

3. Implementation of Mining Plan or Review of Mining Plan:

Sl. No .	Proposal in the approved Mining Plan or Review of Mining Plan	Observations regarding implementation of proposals given in approved Mining Plan or Review of Mining Plan.					Remarks/ Reason for deviation
1	2	3					4
(1)	CONSERVATION OF MINERALS						
(a)	Exploration	Year	Borehole Proposed	Borehole Actual	Spacing (m)	Total Meterage (m)	During the Year 2016-17 the exploration proposal was not achieved. However the same is carried out in the year 2017-18
		2016-17	03	00	Nil	Nil	
		2017-18	06	09	80X80	409	
(b)	Utilization of sub-grade mineral	Depending on market demand the subgrade material is blended with high grade ore for up-gradation.					
(c)	Any other proposal for monitoring	No proposal					

(2)	SCIENTIFIC MINING						
(a)	Mine Development and method of mining	Year	Proposed in Metric Tonnes		Actual in Metric Tonnes		During field inspection it was observed that the retaining wall and garland drain was not properly maintained in between section line 9A & 10A around subgrade dump 4 & 5 and violation letter was issued under Rule 11(1) of MCDR, 2017 vide this office letter dated 27.03.2018 for such deviation.
2016-17		4000000		3995684			
2017-18 (Feb'18)		4000000		3241141			
<p>The ore body extended over a length of about 1100 meters with a width of 595m having thickness of 130m. During the plan period, it is planned to keep the height and width of the benches 9m and 15m to 20m respectively and the individual bench slope at 70⁰ and the overall pit slope is less than 45⁰.</p> <p>The present and proposed method of mining is opencast mechanized mining with shovel & tipper combination and use of other mining machineries.</p> <p>In-situ iron ore deposit of Koira leasehold is massive in nature. Drill machines, Hydraulic excavators, dumpers and other machines are being used for various mining operation such as drilling, ore and over burden removal and transportation of waste into dumping yard & ore to ore crushing/screening plants</p>							
(b)	Handling of Waste/ sub-grade material	Year	Proposed in Metric Tonnes		Actual in Metric Tonnes		
Sub grade			Waste (M ³)	Sub grade	Waste		
2016-17		45200 0	13900 0	34550	23927 7		
2017-18 (Feb'18)		72500 0	21300 0	47296 6	33076 9		
It was proposed that the waste generated during will be used for backfilling of mined out area.							
(c)	Area reclamation & restoration	Year	Proposed in ha		Actual in ha		The violation letter was issued under Rule 11(1) of MCDR, 2017 vide this office letter dated 27.03.2018 for deviation in backfilling proposal.
2016-17		1.48		0.774			
2017-18 (Feb'18)		1.62		0.796			

(d)	Any other proposal for monitoring	No Proposal					
(3) PROTECTION OF ENVIRONMENT							
(a)	Afforestation	Year	Proposed in ha	No. of Plantation Proposed	Actual in ha	No. of Plantation Achieved	
		2016-17	Gap Filling	2500	Gap Filling	3723	
		2017-18	Gap Filling	1000	Gap Filling	2092	
(b)	Quality of air	Quality of air is monitored in regular interval and is within the permissible standard.					
(c)	Quality of Water	Quality of water is monitored in regular interval and is within the permissible standard.					
(d)	Noise level	Noise level is monitored and is within the permissible limit.					
(e)	Vibration	Under permissible limit					
(f)	Any other proposal for monitoring.	No proposal					

4. History of Violations after approval of Mining Plan or Review of Mining Plan :

SL No.	Date of Inspection	Name of inspecting officer	Violations of MCDR, 2017 observed and pointed out	Rectification of violations	Remarks
1	2	3	4	5	6
1	11.01.2018	Sudip Mazumdar, SMG	Violation of Rule 11(1) was observed and pointed out to lessee on 12.01.2018	Compliance received on 03.02.2018 and is under process.	
2	17.03.2018	Shri Harkesh Meena, RCOM	Violation of Rule 11(1) was observed and pointed out to lessee on 27.03.2018.		

5. Socio-Economic Development Plan:

Sl. No.	Proposed Action Plan towards socio-Economic Development	Expenditure proposed (In Rs. Lakh)	Expenditure Incurred (In Rs. Lakh)	Remarks
1	2	3	4	5
(1)	General Development in the area			
	(i) Housing	-	-	
	(ii) Water Supply	570.70	575.70	
	(iii) Sanitation	130.67	130.67	
	(iv) Health safety and Medical Facilities	545.82	545.82	

(2)	Education and Training	1092.54	1092.54	
(3)	Employment to local inhabitants	170.29	173.29	
(4)	Public Transportation and communication	223.80	223.80	
(5)	Recreation and other sports activities	56.43	56.43	
(6)	Expenditure for environment management	20.73	20.73	
(7)	Other	619.20	619.20	
Total		3430.18	3438.18	

(HARKESH MEENA)
Regional Controller of Mines