

**INDIAN BUREAU OF MINES  
MINERALS DEVELOPEMMENT AND REGULATION DIVISION**

**MCDR INSPECTION REPORT**

**Bhubaneshwar regional office**

**Mine file No :** ORI/IRON/KJR/MCDR-62/BBS

**Mine code :** 30ORI08026

- (i) Name of the Inspecting : **S010** ) **SHRI G.C. SETHI**  
Officer and ID No.
- (ii) Designation : Deputy Controller Mines
- (iii) Accompanying mine : Dr. K.Mahanta, Qualified Person  
Official with  
Designation
- (iv) Date of Inspection : 11/04/2018
- (v) Prev.inspection date : 25/11/2015

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **JILLING LANGALOTA**
- (b) **Registration NO.** :
- (c) Category : A Mechanised
- (d) Type of Working : Opencast
- (e) Postal address
- State : ORISSA
- District : KEONJHAR
- Village : JURURI & BANSPANI
- Taluka : BARBIL
- Post office : JAJANG
- Pin Code : 758052
- FAX No. : 06767 275367,279218
- E-mail : EMI.BRBL@RME.SPRINTRPG.EMS
- Phone : 06767 275457,275512,275240
- (f) Police Station : BAMEBARI
- (g) First opening date : 01/10/1954
- (h) Weekly day of rest : SUN
2. Address for : VILL. JORUDI  
correspondance PO. JAJANG, DIST.KEONJHAR  
ORISSA.PIN:758052
3. (a) Lease Number : ORI0093
- (b) Lease area : 456.1
- (c) Period of lease :
- (d) Date of Expiry : 31/03/2020
4. Mineral worked : MANGANESE ORE Associated  
IRON ORE Main

## 5. Name and Address of the

Lessee : ESSEL MINING & INDUSTRIES LTD.  
 INDUSTRY HOUSE 10 CAMAC  
 STREET KOLKOTA-700017  
 KOLKATA WEST BENGAL  
 Phone:  
 FAX :

Owner : Essel mining & Industries Ltd  
 Barbil KEONJHAR ORISSA  
 Phone: 06767-30437, 30  
 FAX : 06767-30367

Agent : RAVINDRA GAJANAN SATHE  
 KASIA IRON & DOLOMITE MINES  
 M/S ESSEL MINING &  
 INDUSTRIES LTD KASIA, PO-  
 BARBIL, KEONJHAR KEONJHAR  
 ORISSA  
 Phone:  
 FAX : 06767 275367

## Geologist

Name : P.K.PARIDA, Full Time  
 Qualification : M.SC GEOLOGY  
 Appointment/ : 20/06/2004  
 Termination date

## Manager

Name : AJIT KUMAR PATRA  
 Qualification : B. E. MINING  
 Appointment/ :  
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	30/05/2002
Plan/Scheme of Mining	:	Renewal under rule 22 MCR1960	06/06/2005
	:	Modif.of approved Mining Plan	23/10/2007
	:	Mining Scheme rule 12 MCDR1988	17/04/2009
	:	Modif.approved Mining Scheme	13/09/2011
	:	Mining Scheme rule 12 MCDR1988	13/06/2014

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	13 nos. of bore holes during 2017-18.	During 2017-18 total 31 nos. of bore holes have been drilled by lesse	There is no backlog.
1b	Exploration over lease area for geological axis 1 or 2	G1/G2 Level of exploration.	Total 114.221 ha area is explored under G1/G2 level through 299 no. of bore holes covering a total depth of 15536.1m	Almost all the mineralised area has been explored by lessee covering 92.583 ha. under G1 level and 21.638 ha. under G2 level.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified.	In 2017-18 total total cost incurred in drilling was Rs 3142775/-.	In 2017-18 total total cost incurred in drilling was Rs 5050455/-. Exploration agency involved in drilling was M/s Geovision Pvt Ltd & V.K.S Mining services, Joda.
1d	Balance area to be explored to bring Geological axis in 1 or 2	Not Proposed.	Almost all the mineralised area has been explored by lessee covering 92.583 ha. under G1 level and 21.638 ha. under G2 level.	Almost all the mineralised area has been explored by lessee covering 92.583 ha. under G1 level and 21.638 ha. under G2 level.
1e	Balance reserve as on 01/04/20	Balance reserve as per Modified mining plan approved on 30.12.2016 was 28.02MT under proved (111) category and 2.328 MT was under feasibility resources (211) category.	Balance reserve as on 01/04/2018 under 111 category was 23.98 MT of Iron ore and feasibility resources under (211) category was 2.328 MT.	Balance reserve as on 01/04/2018 under 111 category was 23.98 MT of Iron ore and feasibility resources under (211) category was 2.328 MT.

1f General remarks  
of inspecting  
officers on  
geology,  
exploration etc

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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	D-pit (S-531 to S-1098 and W-551 to W-1013), N-pit (S-1110 to S-1753 and W-700 to W-111) and Mn pit, (S-400 to S-118 and W-800 to W-650).	The development is concentrated in D-pit (S-531 to S-1098 and W-551 to W-1013)and N-pit (S-1110 to S-1753 and W-700 to W-111) only.	The development is concentrated in D-pit and N-pit.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Separate benches in OB and ore with 9m height.	D-pit: OB- 8 benches, ore- 4 benches N-pit: OB- 2 benches, ore- 5 benches	Separate benches in OB and ore have been maintained.
2c	Stripping ratio or ore to OB ratio	1:0.08	1:0.07	Average stripping ratio varries due to irregular nature of ore deposit .
2d	Quantity of topsoil generation in m3	Average stripping ratio varries due to irregular nature of ore deposit .	Not applicable.	The top soil wherever found is of negligible thickness and it is not extracted separately.
2e	Quantity of overburden generation in m3	416666 cu.m	104843 cu.m	Less OB excavated due less ROM production.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	No comments.	Less OB excavated due less ROM production.	Nil

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## Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	03 numer of pits i.e D-pit , N-pit and Mn pit.	Working is concentrated in mainly 02 pits, D-pit and N-pit.	Nil
3b	Quantity of ROM mineral production proposed	5.0 million tonnes Iron ore and 3600T Mn ore.	In 2017-18, 2.878 million tonnes Iron ore has been produced.	Less production of iron ore carried out due to want of environmental clearance. No production of manganese ore has been reported due to market constraint of low grade Mn ore.
3c	Recovery of sailable/usable mineral from ROM production	Saleable 90% w.r.t total ROM.	Total ROM has been utilised by lessee for the year 2017-18.	Nil
3d	Quantity of mineral reject generation	1666666t during 2017-18.	No sub grade/mineral reject generation has been reported for the peroid 2017-18. About 10% sub grade/mineral reject of ROM production as proposed in modified mining plan has been blended with high garde.	Sub grade/mineral reject generated during mining has been blended with high garde ROM.
3e	Grade of mineral rejects generation and threshold value declared.	-55% to +45% Fe.	No sub grade/mineral reject generation has been reported for the peroid 2017-18.	No sub grade/mineral reject generation has been reported for the peroid 2017-18.
3f	Quantity of sub grade mineral generation.	1666666tonnes during 2017-18.	No sub grade/mineral reject generation has been reported for the peroid 2017-18. About 10% sub grade/mineral reject of ROM production as proposed in modified mining plan has been blended with high garde.	Sub grade/mineral reject generated during mining has been blended with high garde ROM.
3g	Grade of sub grade mineral generation	-55% to +45% Fe.	No sub grade/mineral reject generation has been reported for the peroid 2017-18.	No sub grade/mineral reject generation has been reported for the peroid 2017-18.

3h	Manual / Mechanised method adopted for segregating from ROM	Mechanised.	Mechanised.	Nil
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	Not proposed.	Not applicable.	Nil
3j	Provision of drilling and blasting in mineral benches	DTH drilling of 110mm dia. Blast hole with emulsion/slurr y exlposive as coloumn charge and booster alongwith delay detonator.	DTH drilling of 110mm dia. Blast hole with emulsion/slurry exlposive as coloumn charge and booster as base charge alongwith delay detonator is being practiced for drilling and blasting.	Nil
3k	Provision of mining machineries in mineral benches	Drilling machine- 110 mm dia.-1, Excavator- 1.16/2.3 cu.m- 18, Dumper 30T-40, Dozer- 2 etc.	DTH of 110mm dia. is used for drilling blast hole. Ore & OB are handled by excavator of 2.3 cu.m capacity with dumper of 30 T capacity. The machineries available on the site were Drilling machine- 110 mm dia.-1, Excavator- 1.16/2.3 cu.m-18, Dumper 30T-40, Dozer-2 etc.	Dozer is also used for road grading and two water sprinkler of 20 KL and 12 KL capacity are used for water spraying.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Bench height 9m both in OB & Ore zone..	Bench height 9m in OB/Ore zone.	Nil
3m	Total area covered under excavation/pits	50.105 ha during approved plan period.	About 42.90 ha. has been covered under excavation pits.	About 42.90 ha. has been covered under excavation pits.

3n	Ore to OB ratio for the pit/mine during the year.	1:0.08	1:0.07	Average stripping ratio varies due to irregular nature of ore deposit .
3o	Total area put in use under different heads at the end of year	Total 107.61 ha. area put in use under different heads during approved plan period.	Area covered under different heads are Pit-42.90 ha, waste dump-20.45 ha, Plant, residential & building, roads-12.301ha & Mineral storage, plantation & others -14.961 ha.	Area covered under different heads are Pit-42.90 ha, waste dump-20.45 ha, Plant, residential & building, roads-12.301ha & Mineral storage, plantation & others -14.961 ha.
3p	Production of ROM mineral during the last five year period as applicable	Iron ore: 2013-14: 4.0MT 2014-15: 4.5MT 2015-16: 7.451MT 2016-17: 4.50MT 2017-18: 5.0MT Manganese ore: 2013-14: 3040T 2014-15: 3600T 2015-16: 3600T 2016-17: 3000T 2017-18: 3600T	Iron ore 2013-14: 2160060T 2014-15: 312384T 2015-16: 1665517T 2016-17: 2543361T 2017-18: 2878463.6801T	Less production of iron ore carried out due to want of environmental clearance. No production of manganese ore has been reported due to market constraint of low grade Mn ore.
3q	General remarks of inspecting officers on method of mining etc.	No comments.	The ROM production has been carried out from D- pit and N-pit. DTH drilling of 110mm dia. Blast hole with emulsion/ slurry explosive alongwith delay detonator is being practiced for drilling and blasting. No production has been reported for manganese ore.	The ROM production has been carried out from D- pit and N-pit. DTH drilling of 110mm dia. Blast hole with emulsion/ slurry explosive alongwith delay detonator is being practiced for drilling and blasting. No production has been reported for manganese ore.

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#### Solid Waste Management - Dumping:

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Sl.No.	Item	Propasals	Actual work	Remarks
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4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	Separate dumping for overburden is proposed and no generation proposal for topsoil as the location proposed is devoid of topsoil.	Overburden is dumped on active dump in the designated site.	There is no top soil generation.
4b	Location of topsoil, OB and mineral reject dumps	The location of waste dump is beyond ultimate pit limit.	Beyond ultimate pit limit.	There is no top soil generation. Mineral reject generated during 2017-18 is no separately dumped and it has been blended with high grade ore.
4c	Number of dumps within lease area and outside of lease area	Two dumps	Two dumps	There is no dump in outside lease area.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Dump not falls under ultimate pit limit.	Dump not falls under ultimate pit limit.	Nil
4e	Number of active and alive dumps.	Two dumps	Two dumps	Nil
4f	Number of dead dumps.	One	One	Nil
4g	Number of dumps established.	One	One	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	Retaining wall and garland drain around dump as proposed earlier has been made.	Retaining wall and garland drain around dump as proposed earlier has been made.	Nil
4i	Length of Retaining wall or garland drain all along dumps	About 450mX1.5mX1.0m Retaining wall and garland drain as proposed around dump.	About 450mX1.5mX1.0m Retaining wall and garland drain as proposed around dump has been made.	Nil



4j	Number of settling ponds	Not applicable.	Not applicable.	Nil
4k	Specific comments of inspecting officer on waste dump management		To avoid the erosion and rain slides application of natural geotextiles such as coir matting has been undertaken. Slope of the dead dump has been stabilised by plantation.	Nil

#### Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Pit is not matured for reclamation.	Pit is not matured for reclamation.	Mineralisation is continue and pit is not matured for reclamation.
5b	Area under backfilling of mined out area	Not applicable	Not applicable.	Mineralisation is continue and pit is not matured for backfilling.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	Not applicable	Not applicable.	Mineralisation is continue and pit is not matured for backfilling.
5d	Total area fully reclaimed and rehabilitated	Not applicable	Not applicable.	Mineralisation is continue and pit is not matured for reclamation.
5e	General remarks of inspecting officers on backfilling and reclamation etc.		Mineralisation is continue and pit is not matured for reclamation.	Nil

#### Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
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6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	Annual return on PMCP has to be submitted under Rule 23E(2) of MCDR,2017.	Annual return on PMCP has been submitted.	Annual return on PMCP has been submitted.
6b	Area available for rehabilitation (ha) .		Not applicable.	Area not matured for reclamation & rehabilitation
6c	afforestation done (ha).	1.5 ha.	No plantation was done as the mine was not under operation during 2017-18 upto 16.02.2018.	Nil
6d	No. of saplings planted during the year	8000 saplings.	Nil	Due to non-operational status of the mine upto 16.02.2018.
6e	Cumulative no .of plants			
6f	Any other method of rehabilitation	None	Nil	Nil
6g	Cost incurred on watch and care during the year			
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	Nil	Nil	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	Not applicable.	Not applicable.	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Not applicable.	Nil	Nil

6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not applicable.	Not applicable.	Nil
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not applicable.	Nil	Nil
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	No waste land.	Not applicable.	Nil
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Not applicable.	Nil	Nil
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Not applicable.	Nil	Nil
6p	Compliance of environmental monitoring (core zone and buffer zone)	Monitoring of air, water , noise & vibration etc. are proposed.	The same was monitored after re-opening of the mine 16.02.2018.	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.		The mine was not under operation during 2017-18 upto 16.02.2018.	Nil

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**Mineral Conservation:**


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Sl.No.	Item	Propasals	Actual work	Remarks
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7a	ROM Mineral dispatch or grade-wise sorting within lease area	Gradewise sorting.	Gradewise sorting.	ROM produced from the mine sorted out gradewise of +55% Fe.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Mechanised	Mechanised	Nil
7c	Different grade of mineral sorted out at mines.	45% to 55% Fe and +55% Fe.	Different grades of minerals sorted out at mines are 45% to 55% Fe and +55% Fe.	Nil
7d	Any beneficiation process at mines .	Not applicable.	Not applicable.	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues		Cut off grade of iron ore for the mine is +55%. Different grades of minerals sorted out at mines are -65% Fe, 62 to 58% fe and 58 to 55% Fe. In 2017-18, no sub grade has been reported by lessee.The sub grade generated during mining has blended with high grade.	Nil

#### Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No topsoil generation proposal as the location proposed for excavation planningf is devoid of topsoil during 2017-18.	Not applicable.	Nil
8b	Concurrent use or storage of topsoil	Not applicable.	Not applicable.	Nil

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Separate dump for overburden/waste rock was proposed.	Separate dump for overburden/waste rock has been made.	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Not applicable as no area has been matured for reclamation.	Not applicable.	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Phased restoration/reclamation not proposed as no area is exhausted of mineral.	Not applicable.	Area is not matured for reclamation and rehabilitation.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Plantation proposed along the slope of waste dump & safety zone.	No plantation was done due to the non operational status of the mine during 2017-18 upto 16.02.2018.	Nil
8g	Survival rate		Not applicable as no [plantation was done during 2017-18 as the mine was not under operation upto 16.02.2018.	Nil
8h	Water sprinkling on roads to control airborne dust	Water sprinkling was proposed to control air borne dust.	Water sprinkling was practised to control air borne dust.	Nil

8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	The mine was not under operation during 2017-18 upto 16.02.2018. However, greenary has been developed in the waste dumps as along the lease boundaries, which enhances the austhetic beauty of the sorrounding areas.	Nil
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	Monthly & Annual returns are being regularly submitted by lessee.	Monthly & Annual returns are being regularly submitted by lessee.	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Graduate Mining Engineer-5, Diploma mining Engineer-13 & Geologist-5	Found to be in order.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Area covered under different counts such as Pit-166.053 ha, reclaimed/rehabilitated- 34.069ha, waste dump- 35.528 ha, Plant, bulidings, residential & welfare etc. 58.841ha.	Area covered under different counts such as Pit-166.053 ha, reclaimed/rehabilitated- 34.069ha, waste dump- 35.528 ha, Plant, bulidings, residential & welfare etc. 58.841ha.	Nil
9d	Scrutiny of Annual return on afforestation	9800 nos. saplings	Appears to be in order.	Nil

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9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral reject- Nil	Mineral reject- Nil	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Gradewise stock of 55 to 58% Fe: 58% to 60% Fe: 60% to 62% Fe: 62% to 65% Fe: 65% & above have been furnished.	Gradewise stock of 55% to 58% Fe: 58% to 60% Fe: 60% to 62% Fe: 62% to 65% Fe: 65% & are available.	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Lump: 60% to 62% Fe: Ex mine price Rs 3082.00 62% to 65% Fe: Ex mine price Rs 4793.00 65% Fe and above: Ex mine price Rs 5357.00 Fines: 58% to 60% Fe: Ex mine price Rs 1230.00 60% to 62% Fe: Ex mine price Rs 1230.00 62% to 65% Fe: Ex mine price Rs 2316.00	Lump: 60% to 62% Fe: Ex mine price Rs 3082.00 62% to 65% Fe: Ex mine price Rs 4793.00 65% Fe and above: Ex mine price Rs 5357.00 Fines: 58% to 60% Fe: Ex mine price Rs 1230.00 60% to 62% Fe: Ex mine price Rs 1230.00 62% to 65% Fe: Ex mine price Rs 2316.00	Nil
9h	Scrutiny of Annual return on fixed assets	Fixed asset (Rs Not verified. in thousand) : Rs. 478717.00		Nil

9k	Scrutiny of Annual return on mining machineries	Blast hole drill: 2 nos., Dozer: 2 nos., Water tanker: 2 nos., Wheel loader: 2 nos., Motor Grader: 1no., Back Hoe: 20 nos., Crane: 1no., Explosive van: 2 nos., Jeep/Tractor: 1 no., Tipper- 55 nos., Front end loader-29 nos., Crushers: 6nos and other non- electric equipments: 4nos.	Found in order.	Nil
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**Details of violations observed during current inspection and compliance position of violation pointed out**

Violation observed		Show cause position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

**Date :**

(SHRI G.C. SETHI)

Indian Bureau of Mines