



Ref. No. JLIM/GEOL/ 479 /2013-14

Dated—29.07.2013

To

The Member Secretary,
State Pollution Control Board, Odisha
Department of Forests & Environment,
Govt. of Odisha, Paribesh Bhawan,
A/118, Nilakantha Nagar, Unit-VIII
Bhubaneswar-751012

Sub: Submission of Environmental Statement in respect of Koira Iron Mines of Essel Mining & Industries Limited, Barbil for the year 2012-13.

Dear Sir,

Please find enclosed herewith the environmental statement report for the financial year 2012-13 ending the 31st March' 2013 with respect to our Koira Iron Mines.

Thanking you,

Yours Faithfully,
For ESSEL MINING & INDUSTRIES LTD.


Khageswar Mahanta

Sr. General Manager (Planning, Quality & Environment)

Cc: The Regional Officer, State Pollution Control Board, Sector-5, Rowiketa

Encl: As above

Essel Mining & Industries Ltd.

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FORM-V
(See rule 14)

Environmental Statement for the financial year ending with 31st March 2013

PART- A

- | | |
|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| 1. Name and address of the owner/
occupier of the industry, operation or
process | Koirra Iron Mine
Essel Mining & Industries Limited
At/PO: Koirra, Dist: Sundergarh
Odisha -770048 |
| 2. Industry category Primary- (STC Code)
Secondary- (STC Code) | : Open Cast Iron Ore Mines (Large Scale) |
| 3. Production capacity | : 1.5 Million Tonne Per Annum |
| 4. Year of establishment | : 1971 |
| 5. Date of the last environmental
statement submitted | : 30.09.2011 |

PART- B

Water and Raw Material Consumption:

(i) Water consumption (m³/d)

- | | |
|-------------|---------------------------------------------|
| 1. Process | : 19 (For Water sprinkling within the mine) |
| 2. Cooling | : Nil |
| 3. Domestic | : 11 |

Name of the product(s)	Process water consumption per unit of products	
	During the previous financial year (2011-12)	During the current financial year (2012-13)
This is an open cast iron ore mines producing sized ore and fines. Water is required dust suppression at C&S plant by the dry fog system & water sprinkling within the mines.		

(ii) Raw material consumption

Name of Raw Material	Name of Products	Consumption of raw material per unit of output	
		During the last financial year (2011-12)	During the current financial year (2012-13)
This is an open cast iron ore mines. So the after blasting in the pits, RoM (Run off mine) is feed to Screening & Crushing unit to produce sized ore of 10-30 mm, 5-18 mm and -5 mm sized iron ores. Whatever material is fed for processing, same comes out as output of different size fractions.			

* Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise all industries have to name the raw materials used.

PART-C

Pollution discharged to environment/unit of output
(Parameters as specified in the consent issued)

Pollutants	Quantity of pollution discharged (mass/day)	Concentrations of pollutants in discharges (mass/volume)	Percentage of variation from prescribed standards with reasons																														
Water	<p>As the industry is being operated on dry process technology, no liquid effluent is generated from the screening & crushing process. However, the waste water generated during the maintenance of vehicles & HEMMs in the workshop premises are treated through Oil Grease Water separation tank through gravity & oil immiscibility methods. Clean water is discharged out side to be used for plantation after conformity with the CPCB standards.</p> <p>Domestic waste water generated from residential colony and office toilets is discharged to soak pit via septic tank at present. Installation of Sewage Treatment Plant is under progress as a result the treated water will be utilized for plantation & vehicle washing.</p>																																
Air	<p>Concentration of ambient air quality parameters both in core & buffer zone varies in the following ranges through out the year conforming the NAAQ standards. The monitoring results obtained from the seven locations are submitted periodically to the OSPCB, CPCB, MoEF, IBM.</p> <p>The ambient air quality in & around the lease hold area is falling within the standards without any deviation.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th><u>Core Zone</u></th> <th><u>Buffer Zone</u></th> <th><u>Standards</u></th> <th><u>Variation</u></th> </tr> </thead> <tbody> <tr> <td>PM₁₀ :</td> <td>30-72</td> <td>30-73</td> <td>100</td> <td>Nil</td> </tr> <tr> <td>PM_{2.5} :</td> <td>10-32</td> <td>09-33</td> <td>60</td> <td>Nil</td> </tr> <tr> <td>SO₂ :</td> <td>7.1 – 11.5</td> <td>7.4 – 11.6</td> <td>80</td> <td>Nil</td> </tr> <tr> <td>NO_x :</td> <td>8.3 – 12.9</td> <td>8.5 – 12.8</td> <td>80</td> <td>Nil</td> </tr> <tr> <td>CO :</td> <td>0.1 – 0.9</td> <td>0.13 – 0.98</td> <td>2</td> <td>Nil</td> </tr> </tbody> </table> <p align="center">All parameters are in microgram/cubic meter except CO which is in mg/cubic meter.</p>				<u>Core Zone</u>	<u>Buffer Zone</u>	<u>Standards</u>	<u>Variation</u>	PM ₁₀ :	30-72	30-73	100	Nil	PM _{2.5} :	10-32	09-33	60	Nil	SO ₂ :	7.1 – 11.5	7.4 – 11.6	80	Nil	NO _x :	8.3 – 12.9	8.5 – 12.8	80	Nil	CO :	0.1 – 0.9	0.13 – 0.98	2	Nil
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PART-D

(Hazardous Wastes)

[As specified under Hazardous Wastes (Management and Handling) rules, 1989]

Hazardous waste	Total Quantity	
	During the previous financial year (2011-11)	During the current financial year (2012-13)
(a) From process		
- Used Oil	0.25KL	Nil
- Waste Containing Oil	Nil	0.0007 Tonnes
(b) From pollution control facilities	Nil	Nil

PART-E

Solid Wastes

Sources	Total Quantity	
	During the previous financial year (2011-12)	During the current financial year (2012-13)
(a) From process	14686.26 Tonnes	9250 Tonnes
(b) From pollution control facility	Nil	
(c) Quantity recycled or Re- utilized	Nil	

PART-F

Please specify the characteristics (in terms of composition of quantum) of Hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

Hazardous Waste: (Used Oil & Waste Containing Oil)

Iron ore screening & crushing is based on "Dry Process". No Hazardous waste is generated from the process except used oil which is drained from Machineries / Equipments. It is used for lubrication. Burnt oil are stored in barrel and kept over an impervious floor under shed in a demarcated area till its disposal to authorized recycler.

Central Workshop is located within the lease area for periodical/regular maintenance of vehicles & HEMMs being used for the mining operation & allied activities. Wastes containing oil or cotton waste are being disposed to an earmarked impervious pit.

Solid Waste:

The overburden & intra-burden is systematically and scientifically dumped in the earmarked area (geologically barren area) and the same will be reclaimed by plantation after being declared inactive.

PART-G

Impact of pollution abatement measures taken on conservation of natural resources and on the cost of production.

Significant resource conservation measures undertaken as follows.

1. Systematic & Scientific Mining Operations and use of HEMMs.
2. Extensive & Intensive Exploration Programme are conducted
3. Controlled blasting techniques
4. Use of Jaw/Cone Crusher & Screening Plant for processing of ore.
5. Proportionate Blending of different grades of ore for Meeting Various Buyers' requirement
6. Stacking of sub-grade & its future utilization
7. The estimated expenditure for Environment Management during the Year 2012-13 was Rs57,83,069.00.

8. 2500 Nos. of plant was planted within the mining lease during the year 2012-13.

PART-H

Additional measures/investment proposal for environmental protection including abatement of pollution, prevention of pollution.

1. Further reduction in water consumption by suitable action plan for implementation
2. Implementation of Rain Water Harvesting Structures & Artificial Recharge Structures in and around of lease hold area for conservation & improvement of ground water potentiality.
3. Further greenery development at Mines and Screening & Crushing Unit by planting 6000 nos trees of mixed variety.
4. Waste dumps are to be stabilized through coir mat & plantation subsequently
5. Development of more green belt in & around of operational activities.
6. Awareness and implementation of EMS – ISO – 14001 for improvement in Environment by systematic activities, audits and corrective actions.
7. Top priority for WCM (World Class Manufacturing) activities for improvement in Safety, Environment, production, quality and sustainable development.

PART-I

Any other particulars for improving the quality of the environment

1. We have full-fledged Environment Department for monitoring, maintenance of pollution control equipment and for Green Belt development.
2. Monitoring of ambient air quality, noise, soil, DG stack emission and water quality is being done regularly.
3. Maintenance department is doing regular checking and scheduled maintenance of all the pollution control devices.
4. Administration dept is taking care of House keeping.
5. Geology & Horticulture Department is taking care of tree plantation and green belt development.
6. WCM (World Class Manufacturing) is used as a tool for better house keeping, good maintenance practice and assist in control of pollution.



**Khageswar Mahanta
Sr. General Manager (PQE)**