



Ref. No. EMIL/GEOL/ 629 /2015-16

Dated—30.08.2015

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 2014-15.

Dear Sir,

Please find enclosed herewith the environmental statement report duly filled-in Form-V as prescribed under the Environment (Protection) Rules, 1986 & amendment thereof for the financial year 2014-15 in respect of Koira Iron Mines.

Thanking you,

Yours Faithfully,  
For ESSEL MINING & INDUSTRIES LTD.

Dr. Khageswar Mahanta  
Assistant Vice President

Cc: The Regional Officer, State Pollution Control Board, Sector-5, Rourkela  
~~The~~ Director, Govt. of India, Ministry of Env. & Forests, Eastern Regional Office, A/3,  
Chandrasekharapur, Bhubaneswar-751023 (email-[roez.bsr-mef@nic.in](mailto:roez.bsr-mef@nic.in))

Encl: As above

Essel Mining & Industries Ltd.  
P.O. Barbil, Dist. Keonjhar,  
Odisha 758035, India

Telephone +91 6767 275224, 275422, 276553  
Fax +91 6767 275367  
CIN U51109WB1950PLC018728

Website [www.adityabirla.com](http://www.adityabirla.com)  
E-mail [emilbbl@adityabirla.com](mailto:emilbbl@adityabirla.com)

Head. Office : Industrv House. 18<sup>th</sup> Floor. 10 Camac Street, Kolkata - 700 017



**FORM-V**  
(See rule 14)

Environmental Statement for the financial year ending with 31st March 2015

PART- A

1. Name and address of the owner/ occupier of the industry, operation or process : Koira Iron Mine  
Essel Mining & Industries Limited  
At/PO: Koira, Dist: Sundergarh  
Odisha -770048
2. Industry category Primary- (STC Code) : Open Cast Iron Ore Mines (Large Scale)  
Secondary- (STC Code)
3. Production capacity : 1.5 Million Tonne Per Annum
4. Year of establishment : 1971
5. Date of the last environmental statement submitted : 13.09.2014

PART- B

**Water and Raw Material Consumption:**

(i) Water consumption (m<sup>3</sup>/d)

1. Process : 183(Dust suppression)
2. Cooling : Nil
3. Domestic : 46.3(drinking inside & outside the lease)

Name of the product(s)	Process water consumption per unit of products	
	During the previous financial year (2013-14)	During the current financial year (2014-15)
This is an open cast iron ore mines producing sized ore and fines. Water is required for 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 previous financial year (2013-14)	During the current financial year (2014-15)
This is an open cast iron ore mines. After blasting in the pits, RoM (Run off mine) is fed 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. During the financial year 2013-14 & 2014-15, the ROM produced is 600256 & 1499159 metric tonnes respectively and correspondingly the outputs of different size fractions were generated.			

\* 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	As the industry is being operated on dry process technology, no liquid effluent is generated from the screening & crushing process.									
	Domestic waste water generated from residential colony is treated through Sewage Treatment Plant and the treated water is utilized for plantation & vehicle washing purpose.									
	<b>WATER QUALITY</b>									
	Parameters	Koira nala upstresam	Koira nala down stream	Karo nala upstream	Karo nala Down stream	STANDARD (GSR 422E)				
		Max	Min	Max	Min	Max	Min	Max	Min	
	pH	7.86	6.34	7.88	6.39	7.69	7.01	7.98	6.39	5.5-9.0
	TSS, mg/l	33	8	22	10	29	8	17	10	100
	TDS, mg/l	151	39	141	54	98	44	94	52	2100
	Oil & grease, mg/l	<1		<1		3.5	1	<1		10
	Fluoride, mg/l	0.70	0.35	0.72	0.52	0.62	0.24	0.69	0.39	2.0
	Chlorides, mg/l	20	8	18	7.5	15	6.3	12	6	1000
	Iron, mg/l	0.19	0.08	0.87	0.05	0.08	0.03	0.09	0.04	3.0
BOD, mg/l	7	2	6	2	5	3	<2		30	
COD, mg/l	19	8	15	8	16	8	15	2	250	
Air	Concentration of ambient air quality parameters both in core & buffer zone varies in the following ranges throughout the year conforming the NAAQ standards. The monitoring results obtained from these locations are submitted half yearly to the OSPCB, CPCB, MoEF, IBM.									
	The ambient air quality in & around the lease hold area is within the permissible limit of NAAQ standards.									
	Parameters	Core Zone	Buffer Zone	Standards	Variation					
	PM <sub>10</sub>	46-85	43-80	100	No deviation. All the values remain within the permissible limit.					
	PM <sub>2.5</sub>	16-39	17-41	60						
	SO <sub>2</sub>	7.5-13.1	7.5-12.7	80						
	NO <sub>x</sub>	9-13.9	8.9-13.7	80						
CO	0.12-1.28	0.12-0.53	02							
All parameters are in microgram/cubic meter except CO which is in mg/cubic meter.										

**PART-D**  
**(Hazardous Wastes)**

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

Hazardous waste	Total Quantity	
	During the previous financial year (2013-14)	During the current financial year (2014-15)
(a) From process		
- Used Oil	Nil	4.2 KL
- Waste Containing Oil	0.0965 tonnes	0.297 Tonne
(b) From pollution control facilities	Nil	Nil

**PART-E**

**Solid Wastes**

Sources	Total Quantity	
	During the previous financial year (2013-14)	During the current financial year (2014-15)
(a) From process (Overburden)	6051.35 Tonnes(Backfilled) 4978.60 (Dumped over the waste dump)	36624.91 Tonnes (Dumped over the waste dump)
(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.

Wastes containing oil or cotton waste are being disposed to an earmarked impervious pit.

**Solid Waste:**

The overburden mostly lateritic in nature are removed from the pit and dumped systematically and scientifically in the earmarked area (geologically barren area). The same waste dump is rehabilitated by plantation on maturity.

#### 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. During the year 2014-15 an amount of Rs 20537128.00 was spent towards environmental monitoring & management.
8. 4200 Nos. of saplings was planted within the mining lease during the year 2014-15.

#### PART-H

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

1. The Mine management celebrates and participates in Mine Environment & Mineral Conservation Week, Mines Safety Week & World Environment Day every year.
2. Installation of water flow meters at various water drawal points helps us on economical use of water.
3. Implementation of Rain Water Harvesting Structures & Artificial Recharge Structures in and around of lease hold area for conservation & improvement of ground water potentiality.
4. Greenery development at vacant land, Govt. waste land etc.
5. Waste dumps are stabilized through plantation.
6. Development of green belts around operational areas and nearby villages.
7. Free distribution of saplings to the villagers surrounding our Koira Mines through a drive namely "Magana Brukhya Chara Bitaran Abhijan" involving officials of forest department.
8. The mine has already been certified to ISO-14001 (Environment Management System), ISO-9001 (Quality Management System), OHSAS 18001 (Occupational Health and Safety Assessment Series), and maintaining the systems satisfactorily.
9. 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 and equipments & HEMMs.
4. Administration dept is taking care of Housekeeping and Civil department is taking care of operation of STP under the guidance of Geology department.
5. Geology & Horticulture Department is taking care of tree plantation and green belt development.
6. Fruits bearing saplings are distributed free of cost to the nearby villagers.
7. UBE (Unit Business Excellence) is used as a tool for better housekeeping, good maintenance practice and assist in control of pollution.
8. Organize various awareness programmes in the nearby villages.



**Dr. Khageswar Mahanta**  
Assistant Vice President

