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HZL/RDM/Env/2018-19/ 8935 06.09.2018

**Registered A/D**

The Member Secretary,
Rajasthan State Pollution Control Board,
4th, Institutional Area,
Jhalana Doongari
**JAIPUR (RAJ.)**
**PIN - 302004**

Subject: Environment Statement of Rajpura Dariba Mine for the financial year 2017 – 2018

Refer : File no. F(Mines)/Rajsamand(Railmagra)/1(1)/2008-2009/ 278 - 282/ 23.04.2015

Sir,

Please find enclosed here with Environment statement for the financial year 2017 – 2018.

Thanking you,

Yours faithfully,

(Ram Murari)
Unit Head

Copy to:

1. Regional Officer,
   Rajasthan State. Pollution Control Board,
   18, Azad Nagar, Pannadhay Circle,
   Near Telephone Exchange,
   BHILWARA (RAJ.) PIN – 311001

2. Office copy.

**Hindustan Zinc Limited**
**Rajpura Dariba Lead-Zinc Mine**
**PO: Dariba, The.Railmagra Distt. Rajsamand(Raj.) - 313211**
**Reg. Office: Yashad Bhawan, Udaipur (Rajasthan) 313 004**
CIN – "L27204RJ1966PLC001208"

# Form-V
# (See Rule 14)

Environmental Statement for the financial year ending the 31st March 2018

## PART –A

| | | |
|---|---|---|
| (i) Name and address of the owner / occupier of the industry operation or process | : | Sh.Sunil Duggal CEO & Whole Time Director, HZL,Yashad Bhawan, Udaipur (Raj) |
| (a) Name & Address of the Unit Head | : | Sh.Ram Murari, GM, HZL, RD Mine, Dariba-313211. Phone: 02952 – 265151, Fax: 02952- 265143 |
| (ii) Industry category<br>Primary :- (STC Code)<br>Secondary :- (STC Code) | : | Major Industry |
| (iii) Production capacity: Units | : | 900000 TPA (Mining of Lead-Zinc Ore),<br>1200000 TPA (Lead-Zinc Ore Beneficiation) |
| (iv)Year of establishment | : | 1983 |
| (v) Date of the last environmental Statement submitted | : | 20.07.2017 |

## PART –B

(1)Water and raw material consumption

| Water consumption | Year 2016-17 | Year 2017-18 |
|---|---|---|
| Process | 3344 m3/day | 3522 m3/day |
| Cooling | 3.36 m3/day | 3.26 m3/day |
| Domestic | 1359 m3/day | 1380 m3/day |

| Name of products | Process water consumption per unit of product output | |
|---|---|---|
| | During the current financial year (2016-17) | During the current financial year (2017-18) |
| | 1 | 1 |
| Zinc Concentrate & Lead Concentrate | 13.03 m3/MT of concentrate | 14.14 m3/MT of concentrate |

(2) Raw material consumption

| *Name of raw materials | Name of products | Consumption of raw material | |
|---|---|---|---|
| | | During the current financial year (2016-17) | During the current financial year (2017-18) |
| Lead-Zinc Ore | Lead-Zinc Concentrate | 10.47 MT* per ton of concentrate produced | 10.27 MT* per ton of concentrate produced |
| Copper Sulphate | | 362.0 MT | 302 MT |
| Sodium Cyanide | | 29.0 MT | 26 MT |
| Xanthate | | 100.0 MT | 108 MT |

* Ore is being treated to separate Lead and Zinc Concentrate

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

### Pollutant discharge to environment / unit of output

(Parameter as specified in consent issued)

| Pollutants | Qty. of pollutants discharged (mass/day) | Concentrations of pollutants in discharged (mass/volume) | | Percentage of variation from prescribed standard with reason |
|---|---|---|---|---|
| Trade effluents: Tailing slurry discharged to tailing dam | 1188 MT/day | pH | 6.7-7.9 | Zero discharge |
| | | Suspended Solids | 15-55 | |
| | | Oil & Grease | 3.0 – 6.0 | |
| | | BOD | 2.4 - 27.5 | |
| | | COD | 27.9 – 102.4 | |
| Air Dust Emission From Stack (SPM) | 0.67-0.91 Kg/hr | 63.25-82.19 mg/ Nm3 | | Within permissible limit |

## PART- D

## HAZARDOUS WASTES

(as specified under Hazardous Wastes / Management and Handling Rules, 1989)

| Hazardous Wastes | Total Quantity ( Kg.) | |
|---|---|---|
| | During the current financial year (2016-17) | During the current financial year (2017-18) |
| (a) From process | 1) 37.73 KL used oil;<br>2) 228.0 Kg residue from barrel cleaning;<br>3) 304 decontaminated Sodium Cyanide Containers. | 1) 55.91 KL used oil;<br>2) 281Kg residue from barrel cleaning;<br>3) 511 decontaminated Sodium Cyanide Containers. |
| (b) From pollution control | Nil | Nil |

## PART- E

## Solid Wastes

| | Total Quantity | |
|---|---|---|
| | During the current financial year (2016-17) | During the current financial year (2017-18) |
| (a) From process (Tailings) | 872231 MT | 867095 MT |
| (b) From pollution control | Nil | Nil |
| (c) (1) Quantity recycled or re-utilized within the unit | 436116 MT* | 433547 MT* |
| (2) Sold | Nil | Nil |
| (3) Disposed to Tailing Dam | 436116 MT | 433547 MT |

*Used as fill material for filling of underground voids.

## PART – F

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

**Solid Waste**:
In the process of lead –zinc beneficiation, the solid waste generated as mill tailing. The mill tailing containing 25% solids are pumped after classification by hydro cyclones. 50% of the coarse tailings of the cyclone underflow are utilized for back filling in the underground mine. The cyclone overflow tailings are fed to tailing thickener and allowed to settle in the tailing thickener. The reclaimed water as an overflow from thickener is used as make up process water for beneficiation. Tailing thickener underflow tailings containing about 40 % solids are pumped to the tailing dam where the tailings are impounded and the clear water from the tailing dam is recycled to plant for reuse. The analysis of mill tailing is – Lead: 0.26 %, Zinc: 0.81%, and Iron: 10.76 %

**Hazardous Waste:**

**Used Oil:-**
The used lubricating oil is collected in empty drums and stored at earmarked place in the store yard for sale to actual users/re-processors duly registered by Ministry of Environment & Forests, Government of India, New Delhi.

**Disposal of barrels of chemical substances:-**
Sodium Cyanide is received in MS drums of capacity 95 Kg. Sodium Cyanide is used as depressant agent in Lead-Zinc flotation. The empty drums are de-contaminated by 5-7% Sodium Hypochlorite solution and given thorough wash with water. These drums are then flattened and stored in earmarked place and sent at common hazardous waste treatment storage facility at Gudli. The residue from this cleaning operation is reuse in process

## PART – G

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

The pollution control measures taken on conservation of natural resources are:

- Storage of tailings in the tailing dam.
- Reclamation and reuse of the tailing water for the plant operation.
- Construction of garland drain to prevent any possibility of leachate at tailing dam.
- Maintaining zero discharge from tailing dam.

## PART- H

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

- We have planted 6000 Nos. of plants during the last year 2016 -17 in the mine lease area. The planted species are Neem, Cassia, Sheesham etc.
- Storage of used oil in covered shed.
- Dust from ore crushing & handling equipments is being controlled by dust extraction system through wet scrubber & regular water spraying on industrial roads.
- Regular ambient air monitoring at 3 locations.
- Water quality of mine & wells around the mine complex is being monitored on monthly basis.
- Regular recycling of Tailing Dam Water for beneficiation plant reuse.
- Regular monitoring of noise & persons working in high noise area are provided with ear muffs & ear plugs.
- Overburden is dumped at the designated waste dump yard in a systematic manner.
- Expenditure on Environment for 2017-18 is Rs.17948143/-

## PART – I

Any other particulars for improving the quality of the environment.

- Environment and pollution monitoring equipment like Respirable Dust sampler, stack monitoring kit, DB Meter and water analysis kit etc are available for regular monitoring.
- On 5th June every year World Environment Day is celebrated with great enthusiasm.
- Rajpura Dariba Mines have been 5 Star rated by IBM for the year 2017-18.
- Rajpura Dairba Mines participated in the 28th Mine Environment and Mineral Conservation week – 2017-18 for Ajmer region and vigorously celebrated the week from 03.01.2018 to 09.01.2018. Rajpura Dariba Mines won the following shields in the Underground Mechanized Mines category-

| | |
|---|---|
| First Prize | Sustainable Development |
| First Prize | Afforestation |
| Second Prize | Systematic and Scientific Development |
| Third Prize | Mineral Beneficiation |
| First in Over All Performance | |