vedanta
transforming elements

HZL/RAM/Env/2022-2023/ 1386

September 27, 2022

Member secretary
Raj. Pollution Control Board
4, Institutional Area
Jhalan Doongri
JAIPUR

Sub : Environment Statement of Rampura Agucha Mine for year 2021-2022

Ref: CTO granted vide order No 2019-2020/Mines/9959 dated 25/06/2019.
CTO granted vide order No 2019-2020/CPM/5547 dated 22/10/2019.
EC granted vide letter No J-11015/267/2008-IA.II (M) dated 11.12.2009

Sir/Madam,

Please find enclosed herewith the environmental statement for financial year ending on 31st March 2022.

Thanking you

Yours truly,

(Kishore Kumar S)
CEO Agucha IBU

CEO - IBU Agucha
Hindustan Zinc Limited
Rampura Agucha Mines
PO - Agucha
Distt. - Bhilwara (Raj.)

cc to: **Regional Officer** **: for kind information please.**
Raj. State Pollution Control Board
18, Azad Nagar, Pannadhay Circle,
Mining Engineer Office Road (Near Telephone Exchange)
Bhilwara (Raj.)

The Deputy Director (S) /Scientist -C
Ministry of Environment, Forest & Climate Change,
Integrated Regional Office, A-209&218,Aranya Bhawan,
Jhalana Institutional area Jaipur-302004

Hindustan Zinc Limited
Rampura Agucha Mines, P.O. Agucha, Dist. Bhilwara (Rajasthan) - 311 022
M +91-9001294956-57, F +91-1483 229012 www.hzlindia.com

Registered Office : Yashad Bhawan, Udaipur (Rajasthan) 313 004
CIN No. L27204RJ1966PLC001208

→ O/C Environment

FORM – 5

ENVIRONMENTAL STATEMENT FOR FINANCIAL YEAR ENDING ON 31ST MARCH 2011

PART – A

(i).	Name and address of the owner / occupier of the industry/ operation or process	:	Sh. Arun Misra Chief Executive Officer & Whole Time Director Hindustan Zinc Limited Yashad Bhawan Udaipur 313 001
	Name and address of unit head	:	Sh. Kisore Kumar S CEO -Agucha IBU Hindustan Zinc Limited Rampura Agucha Mine AGUCHA 311 022 Distt. Bhilwara (Raj) Phone: 01483 – 229011 Fax : 01483 – 229012
(ii).	Industry category	:	Red
	Primary (STC code)		Mining of lead-zinc minerals and ore beneficiation
	Secondary (STC code)		Not Applicable
(iii).	Production Capacity -Units	:	6.15 Mtpa of lead- zinc ore production & 6.50 Mtpa lead zinc ore beneficiation
(iv)	Year of establishment	:	Commissioned on 25/03/91
(v).	Date of last environmental statement submitted	:	22/09/2021

PART – B
Water and Raw Material Consumption

(i) Water Consumption (m3/day)

	Cum/day
Process	5921.581
Cooling / Services	199.701
Domestic	1814.942

Name of Product	Process water consumption (fresh water) per unit of product output (Ore treatment)	
	During current year 2020-21	During current year 2021-22
Lead & Zinc concentrate	0.417 cum/MT	0.396 cum/MT

(ii) Raw material consumption

Name of raw material	Name of product	Consumption of raw material per unit of output (gm/MT)*	
		2020-2021	2021-22
Copper Sulphate	Lead & Zinc Concentrate	810.482	748.746
MIBC	--do--	25.253	33.743
Hydrated Lime	--do--	77.636	24.435
Nigrosine	--do--	159.132	90.055
Xanthate (PEX & SIPX)	--do--	180.801	151.172
Sodium Cyanide	--do--	56.054	37.984

* Raw material consumption is shown as grams per ton of ore treatment.

Production	2020-2021 (MT	2021-2022 (MT)
Ore treatment	5467459	5452004
Lead Concentrate	79537	81132
Zinc Concentrate	943093	978250

PART – C

POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT

(Parameters as specified in the consent issued)

Sr. No	Pollutants		Quantity of pollutants discharged	Concentration of pollutants in discharge (mass/volume)	%age of variation from prescribed standards and reason
A	Water		Zero discharge status	No Discharge	Zero discharge is maintained. Water is reclaimed from tailing dam and reused in beneficiation plant.
B	Air dust emission from stack (SPM)	Primary Crusher Old	13.87kg/day	29.67mg/Nm^3	80.22% lesser than stack emission standard
		Primary Crusher New	15.99 kg/day	30.02mg/Nm^3	79.99% lesser than stack emission standard
		Sec./Ter Crusher	16.95kg/day	33.08mg/ Nm^{3s}	77.95% lesser than standard of stack emission

PART – D

HAZARDOUS WASTE

[As specified under Hazardous and other Waste (Management, & Transboundary Movement) Rules 2016]

Hazardous wastes	Total quantity generated during the year	
	2020-2021	2021-22
a. From Process		
Decontaminated drums	5359 Nos.	3549 Nos
Used oil	732 MT	742.72MT
Insulated Copper wire scrap (Druid)	132.88 MT	56.44 MT
Scrap lead acid batteries	32.980MT	37.24 MT

PART – E

Solid Waste

Sr. No.		Total quantity during the year	
		2020-2021	2021-22
a	From process (Tailings)*	4444829 MT	4392260 MT
b	From pollution control facility **	Nil	Nil
c	1. Quantity recycled or reutilized	Nil	Nil
	2. Solid	Nil	Nil
	3. Disposed***	Nil	Nil

* All the tailings of beneficiation plant are being discharged to tailing dam and zero discharge is maintained. Water is reclaimed from tailing dam and is pumped back to beneficiation plant for reuse.

** All the dust slurry transported to process plant and utilized.

*** Used oil sold to registered parties with MoEF / CPCB.

PART – F

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

i. The Solid Waste in form of tailings (Non hazardous) generated from beneficiation plant having following mineralogical composition:

Particular	% Content
Total Lead	0.40 – 0.60%
Total Zinc	1.10 – 1.50%
Total Iron	8.30 – 12.30%
Insoluble	60.0 – 66.30%
Gr. Carbon	4.90 – 6.65%
Silica	41.10 – 44.75%
Cd	0.0022 - 0.0044%

Tailing in the form of slurry (containing 60% solids) is being discharged in the tailing dam. These solids of the slurry settles and clear water are reclaimed and put in water recirculation system.

ii.	Over burden	-	Quantity: 1927333 MT This over burden does not contain any minerals and are inactive rocks. This waste is dumped in the non-mineralized zone area with 7 X 20 m lifts with 20 m benches between successive lifts. The rock faces are dozed and covered with available. 742.72 MT of used oil is recovered from the different machinery and heavy earth movers. Used oil is stored in drums and kept in the specified area for disposal to registered re-refiners with MoEF / CPCB.
iv.	Discarded Containers and bags	-	Discarded containers of chemicals are stored in the earmarked place, decontamination is Carried out before disposal to TSDF.

PART – G

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

Beneficiation plant is discharging the tailing slurry, which contains about 40% water and 60% solids. For this purpose tailing dam was constructed having an area of 1.30 sq. km. to collect water in down streamside. The pumps are installed at tailing dam to pump this water to reclaim pump house sump and from there it is pumped to beneficiation plant for reuse. To meet out water requirement, radial well constructed in Banas River bed and laid down 60 kms long pipe line for supply of water for industrial and domestic use. The water requirement for process plant is met by 60% reclaimed water of tailing dam and 40% by fresh water. The tailing dam is constructed with bottom and inside walls lined with impervious soil and HDPE for containment of tailings. The reclaimed water is used in plant to reduce the fresh water consumption by about 60%. The mine pit water is being used in process plant. Thus conserves water a natural resource.

PART – H

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

The following works are completed to improve the working environment

1. Haul road dust suppression by use of dust suppression chemical along with water to reduce the water consumption and air born dust.
2. Cleaning of industrial roads and yards by Mechanical Road Sweepers.
3. Regular plantation on matured benches, periphery, road side etc.
4. Application of geotextiles over waste dump slope at critical locations for reducing fugitive dust caused by high speed wind and improving slope stability.

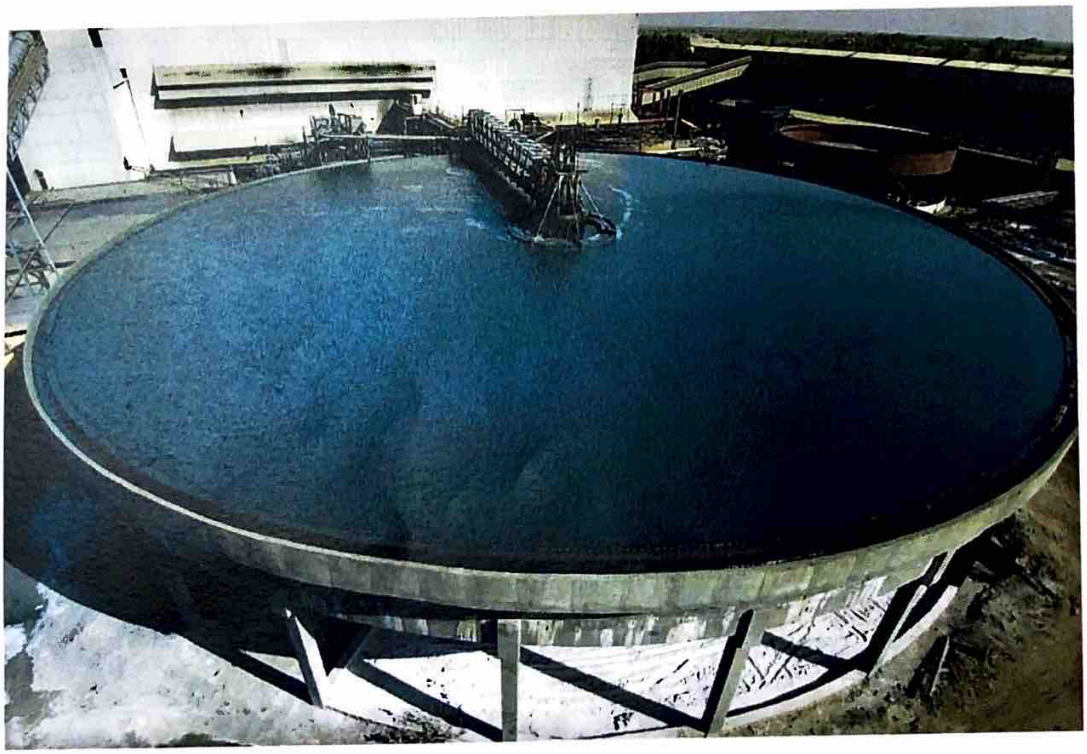
PART-I

Any other particulars for improving the quality of the environment:

1. **Air pollution control**
   - Dust from ore crushing and handling equipment is being controlled by dust extraction system through wet scrubber, dust suppression system & dust extraction system.
   - Fortnightly monitoring of ambient air quality at 6 locations and stack emissions from crushing section stack for suspended particulate matter.
   - Haul road fugitive emission controlled by regular water sprinkling with dust suppression by 40 KL water sprinkler tankers.
   - Mechanical truck mounted road sweeper for road cleaning.

2. **Water pollution control**:

- Water quality of wells and piezometers around the mine complex is being monitored on quarterly basis.
- Tailing treatment and disposal: Tailings of beneficiation plant are treated with hydrated lime prior to pumping to the tailing dam and reclaimed water is pumped back to plant for reuse.
- Reclaim water reservoir of 50,000-m3 & 35000-m3 capacity, to reduce the water evaporation losses at tailing dam. Water from all the sources is pumped to this reservoir for recycling.



3. **Noise and vibration control**

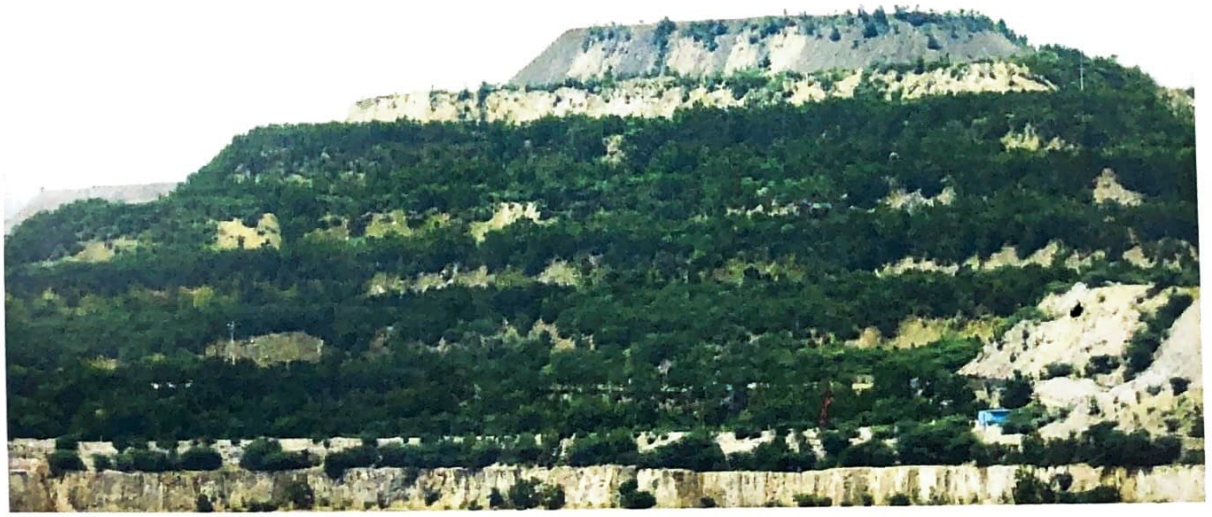
Cabins of all the HEMM are air-conditioned. Sound level of mining equipment, beneficiation plant is regularly monitored. Long hole open stopping blasting technique used in mine and Ground vibrations are regularly monitored by internal and external agencies.

4. **Waste dump management**

Overburden is dumped in the form of 7 X 20 m lifts with an ultimate height of 140 m and having an angle of 45° and the overall slope of 27°. The rock faces are dozed and covered with the available top soil and saplings are planted on the inactive benches and slopes.

5. **Plantation & Geotextiles**

- Till March 2022, 684280 Nos Plants in 348 Hectares area are surviving in acquired land of lease area of which 20000 saplings was planted in 2022.
- In township 74.0 hectares land was acquired and 29.00 hectares has been covered by greenbelt.
- Extensive plantation has been carried out along various road sides connected to plant and colony.



- Geotextile Laying on waste dump slopes for rehabilitation or green belt development

6. **Environmental awareness**:
   - IBM, Ajmer region organizes Mine Environment and Mineral Conservation Week host by Rampura Agucha mine. During celebration of Week, numbers of activities were carried out to increase environmental awareness among the employees. Some of the activities, which are done during the week, are posters, slogans and speech competitions.
   - Celebration of World Environment Day on 5th June 2022. Photography competition for employee was conducted.
   - ISO-14001, ISO 9001, ISO 45001, ISO 50001 & SA 8000 audit by external agency.
   - Legal training on Environmental rules & regulations and sustainability etc.
   - Environmental awareness is part of works training at vocational training center as per VT rules.
   - Online quiz test for employee on World Environment Day.
   - Waste and water management awareness skits.

7. **Water Conservation Measures:**
   - Water from all the sources is pumped to Reclaim Water Reservoir of 50,000 m^3 & 35,000 m^3 capacity to reduce the evaporation losses.
   - Use of reclaim water in place of fresh water in all the de-dusting systems and flocculants preparation tank.
   - Created 8.72 MCM artificial ground water recharge structures at 4 blocks of Bhilwara district.
   - Efficient operation of 425 KL/day Sewage Treatment Plant at residential colony and 300 KL/day Sewage Treatment Plant at Mines area.
   - Collection of rainwater in sump & pumping back for usage

8. Awards:

- 32nd Mines Environment and Mineral Conservation Week 2021-2022 celebrated and Rampura Agucha Mine Awarded in following categories:
- Second in overall category
- Waste Dump Management,
- First Reclamation & Rehabilitation,
- Second in afforestation & Sustainable development
- Energy Conservation Award under Diamond Category, Green Maple Foundation Pinnacle Award -2022
- Water Conservation Award under Platinum Category, Green Maple Foundation Pinnacle Award -2022

CEO - IBU Agucha
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