

HZL/RAM/Env/2024-2025/602

August 06, 2024

Member secretary,
Rajasthan Pollution Control Board,
4, Institutional Area,
Jhalana Doongri,
Jaipur.

Sub : Environment Statement of Rampura Agucha Mine for year 2023-2024.


Ref: CTO Mine order No 2022-2023/Mines/10762 dated 28/02/2023.
CTO Mill order No 2023-2024/HDF/9370 dated 14/06/2023.
EC Letter No J-11015/267/2008-IA.II (M) dated 11.12.2009.

Sir,

Please find enclosed herewith the environmental statement for financial year ending on 31st March 2024.

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,
Rajasthan State Pollution Control Board,
18, Azad Nagar, Pannadhy Circle,
Mining Engineer Office Road (Near Telephone Exchange)
Bhilwara (Raj.)

The Joint Director,
Ministry of Environment, Forest & Climate Change,
Integrated Regional Office, A-209&218, Aranya Bhawan,
Jhalana Institutional area Jaipur-302004.

Env. - o/c

Hindustan Zinc Limited

Rampura Agucha Mines, P.O. Agucha, Dist. Bhilwara (Rajasthan) - 311 022
M +91-9001294956-57 www.hzindia.com

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

FORM – 5

ENVIRONMENTAL STATEMENT FOR FINANCIAL YEAR ENDING ON 31ST MARCH 2023

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 : 28/09/2023
submitted

PART – B
Water and Raw Material Consumption

(i) Water Consumption (m3/day)

	Cum/day
Process	5211.11
Cooling / Services	132.80
Domestic	2027.14

Name of Product	Process water consumption (fresh water) per unit of product output (Ore treatment)	
	During current year 2022-23	During current year 2023-24
Lead & Zinc concentrate(Mill)	0.367 cum/MT	0.345 cum/MT

(ii) Raw material consumption

Name of raw material	Name of product	Consumption of raw material per unit of output (gm/MT) *	
		2022-23	2023-24
Copper Sulphate	Lead & Zinc Concentrate	703.075	660.614
MIBC	--do--	34.161	26.136
Hydrated Lime	--do--	34.554	34.648
Nigrosine	--do--	5.170	4.804
Xanthate (PEX & SIPX)	--do--	138.199	145.664
Sodium Cyanide	--do--	33.098	13.378
Sodium Humate	--do--	-	8.00

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

Production	2022-2023 (MT)	2023-2024 (MT)
Ore treatment	5492672	5531215
Lead Concentrate	84901.5	90105.9
Zinc Concentrate	1029008.3	1084224.8

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	6.50 kg/day	27.09 mg/Nm ³	81.94% lesser than stack emission standard
		Primary Crusher New	16.77 kg/day	34.95 mg/Nm ³	76.70% lesser than stack emission standard
		Sec./Ter Crusher	37.44 kg/day	26.00 mg/ Nm ³	82.66% 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	
	2022-2023	2023-24
a. From Process		
Decontaminated drums	4042 Nos	1566 Nos
Used oil	929.4 MT	669.92 MT
Insulated Copper wire scrap (Druid)	98.23 MT	0.0 MT
Contaminated cotton rags or other cleaning materials	-	1.7 MT
Oil containing wastes / Residues	-	1.44 MT

PART – E

Solid Waste

Sr. No.		Total quantity during the year	
		2022-2023	2023-24
A	From process (Tailings)*	4378762 MT	4373291 MT
	Tailing as reuse in backfilling	1790439 MT	1680156 MT
	Tailing to Tailing Dam	2588323 MT	2693135 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	0.3 – 0.41%
Total Zinc	0.9 – 1.14%
Total Iron	5.58 – 6.64%
Insoluble	60.0 – 75.5%
Gr. Carbon	2.5 – 4.5%
Silica	35 – 50%
Cd	0.001 – 0.0045%

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 | - | <p>Quantity: 1661124 MT</p> <p>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.</p> |
| iii. | Used Oil | - | <p>669.92 MT of used oil is recovered from 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.</p> |
| iv. | Discarded Containers and bags | - | <p>Discarded containers of chemicals are stored in the earmarked place, decontamination is Carried out before disposal to TSDF.</p> |

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. Regular sprinkling on Haul roads for dust suppression.
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 crushin section stack for suspended particulate matter.
- Haul road fugitive emission controlled by regular water sprinkling with dust suppression by 40 KL (4 Nos.) 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

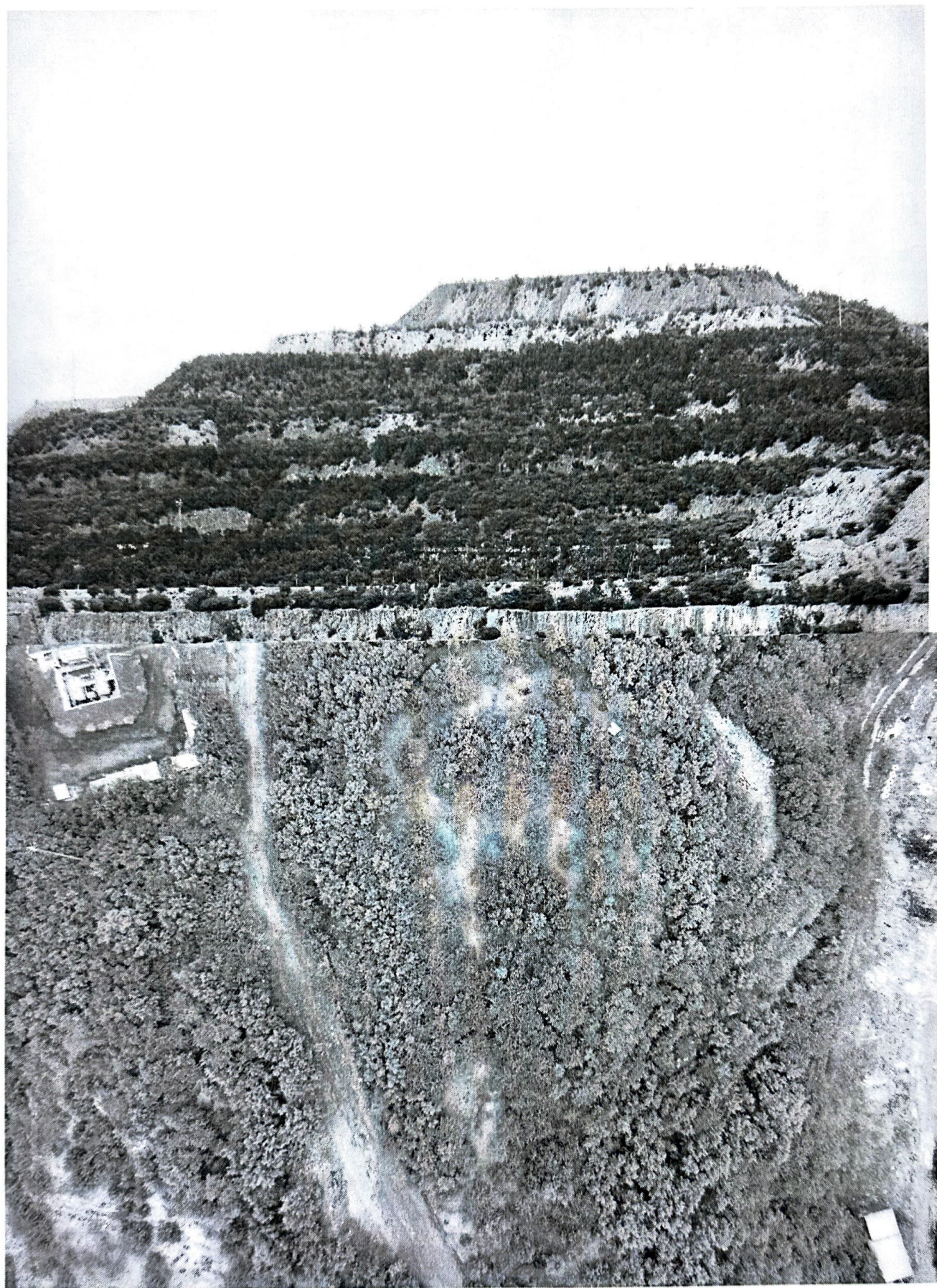
Cabins of all the HEMM are air-conditioned. Sound level of mining equipment, beneficiation plant is regularly monitored. Long hole open stopping blasting technique used in mine and Ground vibrations are regularly monitored by internal and external agencies.

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.

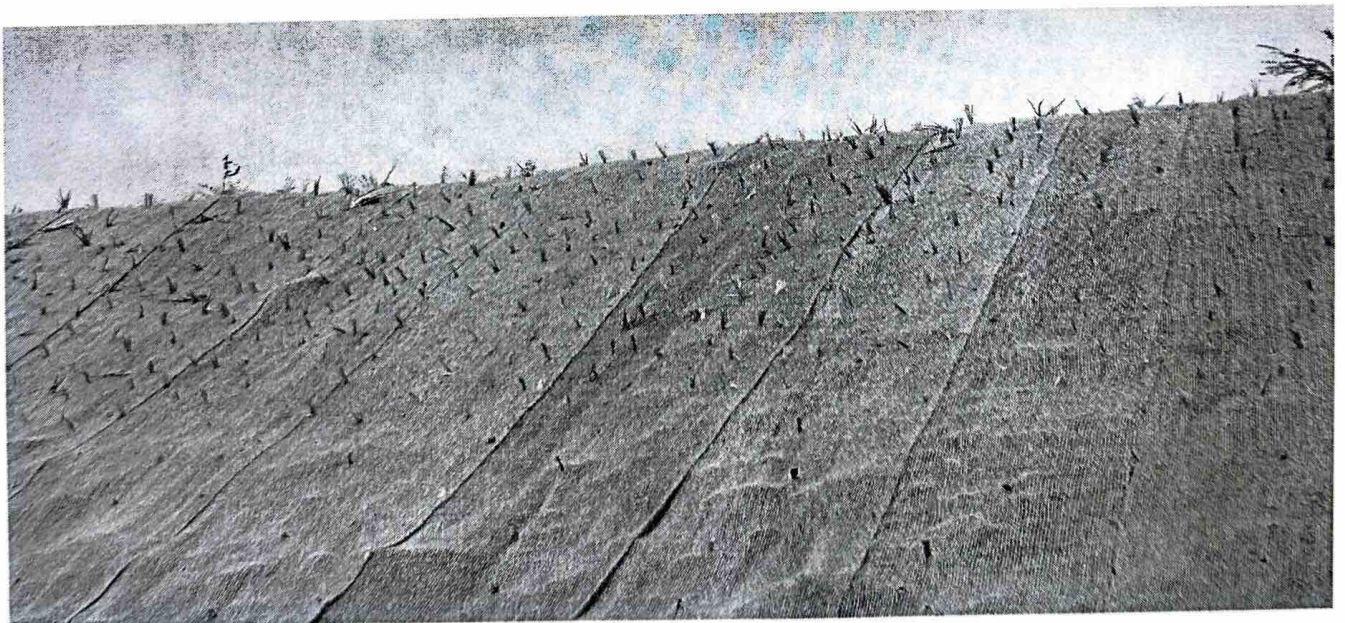
5. Plantation & Geotextiles

- Till March 2024, 732103 Nos Plants in 348 Hectares area are surviving in acquired land of lease area of which 15000 saplings was planted in 2024-25.
- In township 75.0771 hectares land was acquired and 50.98 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



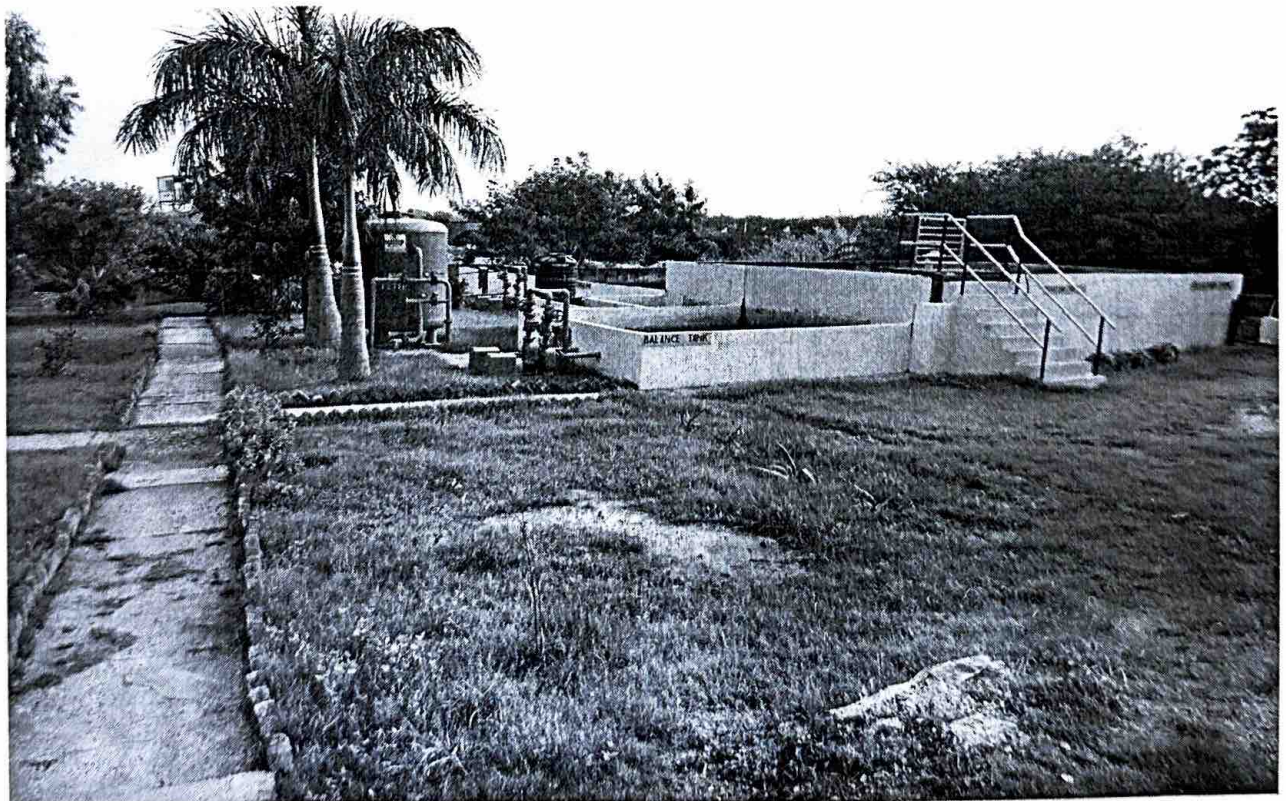
6. **Environmental awareness:**

- 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 2023.
- ISO-14001, ISO 9001, ISO 45001 & ISO 50001 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.
- Weeklong celebration on Energy Conservation Day and World Water Conservation Day

7. **Water Conservation Measures:**

- Water from all the sources is pumped to Reclaim Water Reservoir of 50,000 m³ & 35,000 m³ 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 Mine area.
- Collection of rainwater in sump & pumping back for usage



8. Awards:

- CII-Sohrabji Godrej Green Business Centre- Silver Rating Award- RA Mine became the **1st GreenCo Certified Underground Mine** on World Environment Day.
- **RA Mine received prestigious state level Bhamashah Award for making exemplary contribution in the field of Education** through School infrastructure support and implementing various projects like Shiksha Sambal and Unchi Udaan.
- **RA Mine** was awarded as the overall Best Underground Mine in 37th Mines Safety Week organised by DGMS.
- **RA Mine** was awarded as the overall Best Underground Mine in 34th Mine Environment and Mineral Conservation Week organised by IBM.
- *All Woman First Aid Team of RA Mine* participated for the first time in the First Aid Competition Mine Safety Week organized by DGMS and won the **1st Prize**, creating history by competing and winning against men's teams across the zone.
- **First Aid Team** of Rampura Agucha Mine won the **1st Prize for the 6th consecutive time** under the 37th Mines Safety Week of DGMS Ajmer Region among 22 competing teams.
- **RA Mine** received 3 Gold and 1 Silver award at 22nd Chapter Convention (QCFI Rajsamand Chapter) held at Udaipur in the Allied concepts category.
- **RA Mine** recognised as a **Best CI unit** across Organisation for executing highest no. of kaizens (1242nos) and driving 22 nos of FIP at site.


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