

Ref.: - HZL/ZM/ENV/2026

1294

Date – 21.08.2026

By Registered

The Member Secretary
Rajasthan State Pollution Control Board
4- Institutional Area, Jhalana Dungri
JAIPUR-302004 (Raj)

Sub.: Environmental Statement for the year 2025-26 for Zawar Group of Mines

Ref: F(Mines)/Udaipur (Sarada)/53(1)/2016-2017/5003-5007 dated 20/12/2022
F (HDF)/Udaipur (Sarada)/1(1)/2020-2021/5368-5370 dated 28/12/2022
Environment Clearance vide No – J-11015/259/2012-IA-II(M) dated 16/10/2020

Sir

Please find attached herewith the **Environmental Statement** for the year **2025-26** for **Zawar Group of Mines**.

Thanking you

Yours Sincerely


Anshul Kumar Khandelwal
(CEO- IBU, Zawar)

CEO-IBU Zawar
Hindustan Zinc Limited
Zawar Mines
District Udaipur (Raj)
Pin-313001

Encl.: As above

- CC: 1. The Deputy Director (S), Scientist- C, Ministry of Environment, Forest & Climate Change,
Integrated Regional Office, B-213 & 216, Aranya Bhawan, Jhalana Institutional Area,
Jaipur (Rajasthan)- 302004
2. The Regional Officer, Rajasthan State Pollution Control Board, F-470, Near
UCCI Building, Madri Industrial Area, Udaipur-313003 (Raj.).
→ 3. Office Copy (Env. Cell)

Sensitivity: Internal (C3)

Hindustan Zinc Limited, P.O. Zawar Mines, Salumber - 313 901, Rajasthan, INDIA.
T. +91 294-2723441, 2723448 www.hzindia.com
Registered Office: Yashad Bhawan, Udaipur-313 004, Rajasthan, INDIA.
CIN: L27204RJ1966PLC001208



FORM – V
(See Rule-14)

Environmental Statement for the financial year ending the 31st MARCH, 2026

PART – A

(i)	Name and Address of the Owner / Occupier of the Industry / Operation or Process	Sh. Amarendu Prakash (Occupier) CEO & Whole Time Director Hindustan Zinc Limited, Yashad Bhawan, Udaipur-313001 (Raj) Sh. Anshul Kumar Khandelwal (Location Head) CEO- IBU Zawar Mines Hindustan Zinc Limited, Zawar Mines, Tehsil-Sarada, Dist.- Udaipur- 313901 (Raj)
(ii)	Industry category Primary (STC code) Secondary (STC code)	Red/Large Mining of lead-zinc minerals and ore processing NA
(iii)	Production capacity	4.8 Mtpa of ore production & Its beneficiation
(iv)	Year of establishment	Prior to 1950
(v)	Date of last environmental statement submitted	26.08.2025

PART – B

Water and Raw material Consumption

- (i) Water consumption m³/d
Process – 2240.66 m³/d
Cooling - NA
Domestic- 3131.07 m³/d

Name of product		Process fresh water consumption per unit of product output.**	
		During the previous financial year (2024-25)	During the current financial year (2025-26)
		(1)	(2)
(1)	Lead - Zinc concentrate	0.23 m³/MT*	0.243 m³/MT*
(ii) Raw material consumption			
Name of Raw materials	Name of products	Consumption of raw material per unit of output (gm/MT) **	
		during the previous financial year (2024-25)	during the current financial year (2025-26)
Copper Sulphate	Lead - Zinc concentrate	149.59	157.388
MIBC + Frothosol		23.72	23.415
Xanthate		32.17	31.338
Sodium Cyanide		1.18	2.196
Lime		0	0

*Our product output is lead - zinc concentrate. Whereas water consumption shown as cubic meter per ton of ore treatment in beneficiation plant

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

Production	2024-25 (MT)	2025-26 (MT)
Ore Treatment	4249308	4349388
Total Concentrate	378374	387384

PART – C

Pollution discharged to environment/unit of output.

(Parameters as specified in the consent issued)

(1) Pollution	Quantity of pollutants discharged (mass/day)	Concentration of pollutants discharge (mass/volume)	Percentage of variation from prescribed standards with reason
a) Water	Zero discharge status	No Discharge	Zero discharge is maintained as per the consent granted by the RSPCB.
(b) Air			
Air dust emission from stack (PM)			
Mochia Crusher	21.12 kg/day	28.03 mg/Nm ³	81.31% less than standard
Balaria Crusher	20.93 kg/day	27.33 mg/Nm ³	81.78% less than standard
DE-2 (Mill-2)	8.64 kg/day	27.35 mg/Nm ³	81.77% less than standard
DG- Set		48.9 mg/Nm ³	34.8% less than standard

PART – D

HAZARDOUS WASTES

(as specified under Hazardous Wastes (Management, Handling & Transboundary Movement) Rules 2016)

Hazardous wastes	Total Quantity (MT)	
	during the previous financial year (2024-25)	during the current financial year (2025-26)
(a) From Process		
Decontaminated drums	111 Nos. (Gen.), 0.68 MT (Disposed)	174 Nos. (Gen.), 1.00 MT (Disposed)
Waste oil sold	0 MT	0 MT
Used Oil sold	ZM- 314.01 MT ZM CPP- 0.98 MT Total- 314.99 MT	ZM- 301.36 MT ZM CPP- 0.00 MT Total- 301.36 MT
Scrap batteries sold	13.36 MT	0.98 MT
(b) From pollution control facilities	Nil	Nil

PART – E

Solid Wastes

		Total Quantity (MT)	
		during the previous financial year (2024-25)	during the current financial year (2025-26)
A	From process (Tailings)*	3870934 MT	3962005 MT
B	From pollution control facility **	Nil	Nil
C	1-Quantity recycled or reutilized	Nil	Nil
	2-Solid	Nil	Nil
	3-Disposed***		
	Decontaminated drums	111 Nos. (Gen.), 0.68MT (Disposed)	174 Nos. (Gen.), 1.00 MT (Disposed)
	Waste Oil sold	0 MT	0 MT
	Used Oil sold	ZM- 314.01 MT ZM CPP- 0.98 MT Total- 314.99 MT	ZM- 301.36 MT ZM CPP- 0.00 MT Total- 301.36 MT
	Scrap batteries sold	13.36 MT	0.98 MT

- * Tailing is a major waste material generated from beneficiation plant.
- ** All the dust slurry transported to process plant and utilized.
- *** Used/Spent oil & Scrap lead acid batteries 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 wastes.

- i. **Solid Waste-** The Solid Waste in form of tailings (Non-Hazardous) generated from beneficiation plant is- **3962005 MT** having following mineralogical composition

Particular	% Content
Total Lead	0.06 %
Total Zinc	0.16 %
Total Iron	3.46 %
Insoluble	33.29 %
Cadmium	0.001163 %

Tailing is pumped to Dry tailing plant where water is separated from tailings and dry tailing cake having moisture around 15 to 18% is disposed in Tailing storage facility (TSF). Water thus separated is 100% recycled in beneficiation plant.

Hydro fill plant and paste fill plant are in place to backfill the tailing in mine void at Mochia and Zawarmala respectively. During the year, **640508 MT** of tailing backfilled in mine void.

Waste rock- Total generation – **555870 m³**

Waste rock are filled back in mine void and partially utilized for covering slope of TSF etc. for arresting fugitive dust generation.

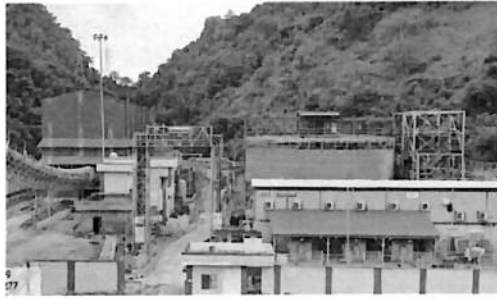
Used oil- Used oil is recovered from the different machinery and heavy earth movers. Used oil is stored in drums and kept in the specified area for disposal to registered re-refiners with MoEF/CPCB

Discarded Containers and bags- Discarded containers of chemicals are stored in the earmarked place and after decontamination, disposal to authorize TSDF.

PART – G

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

Wet Tailing of beneficiation plant is being processed in Dry Tailing Plant to produce dry tailing of 15-18% moisture content, which is stacked in Tailing Storage facility. Water is reclaimed from Dry Tailing plant and is pumped back to beneficiation plant for reuse. Water requirement is met out by our captive Tidi Dam. The water requirement for process plant is met out by 80% reclaimed water of tailing storage facility thereby reducing fresh water consumption.



Dry Tailing Plant



Dry Tailing



Tailing Storage Overview



Tailing Embankment Drain

PART – H

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

- Implementation of 4 MLD High rate solids contact clarifier (HRSCC) and reverse osmosis plant increasing water recyclability and reducing freshwater consumption.



4 MLD HRSCC

- Hydrofill and paste fill plant to backfill tailings in mine void



Hydro Fill Plant



Paste Fill Plant

- Wet drilling operations continued.
- Transportation of concentrates in tarpaulin covered trucks.
- Underground water sprinkler on haul road.
- Oil water separator



Oil Water Separator



Vehicle Washing Facility



Fogger installation at Adit

- De-dusting systems at both the secondary crushers at Beneficiation Plant (Mochia & Balaria crushers & New Crusher).
- Installation of water sprinklers at Ore Stockpile and other transfer points.



Water Mist Sprinkler at crusher



TSF Plantation



Fogger Machine for Dust Suppression



20000 CUM Reservoir



Plantation At Zawar



Digital Locking of Concentrate Trucks

Unit is certified for ISO-9001:2015 (Quality Management System), ISO-14001:2015 (Environmental Management System), ISO-45001:2018 (Occupational Health & Safety Management System) and ISO 50001:2018 (Energy Management System)

Part- I

Any other particulars for improving the quality of the environment.

- 1. Air pollution control:** Dust extraction systems are in place for the crushers. Water sprinkling on ore while transportation and prior to crushing. Monitoring twice a month of ambient air at 8 locations and stack emission from stacks of crushing section for suspended particulate matter.
- 2. Water pollution control:**
 - a. Quality of mine water and ground water in and around the mine complex is being monitored regularly.
 - b. Wet Tailing of beneficiation plant is being processed in Dry Tailing Plant to produce dry tailing of 15-18 % moisture content, which is stacked in Tailing Storage facility. Water is reclaimed from Dry Tailing plant and is pumped back to beneficiation plant for reuse.
 - c. Reclaim water reservoir of 2,000 m³ capacity is used to prevent processed water from mixing to natural water source.
- 3. Noise and Vibration control:** Sound level for mining equipment's, beneficiation plant is regularly monitored. Use of blasting software for blast design and improvement in fragmentation. Ground vibrations are monitored on regular basis.
- 4. Plantation:** Land acquired for mining activity is 483.23 hectares, out of this 170.85 is having plantation. During the year 11254 plantation done near Puliya area and Zawar Mines premises.
- 5. Expenditure:** Year wise expenditure is reported to MoEF and its Regional Office at Lucknow. Total expenses during 2025-26 is **711.082 lacs.**

6. Environmental awareness:

Several environment awareness activities are organized by Zawar Mines Environment Team. Plantation drive Conducted at various locations of Zawar Mines: Balaria Mines, Mochia Mines, Baroi Mines, Zawarmala Mines, Mill Office, VTC. Also, Various competitions were organized on World Environment day.



Also, conducted training programs on Environment rules and regulations, waste management Climate change and other environment management aspects.

7. Water Conservation Measures: By deploying various water conservation measures Zawar Mines maintains Zero Effluent Discharge status. Following activities are being practiced and will be continued for monitoring and maintain zero discharge:

- Recycling of mine water for mining and beneficiation process.
- Wet Tailing of beneficiation plant is being processed in Dry Tailing Plant to produce dry tailing of 15-18 % moisture content, which is stacked in Tailing Storage facility. Water is reclaimed from Dry Tailing plant and is pumped back to beneficiation plant for reuse.
- Sewage Treatment Plants (300 KLD & 150 KLD) for domestic wastewater. Treated water is recycled in Beneficiation plant, surface exploration drilling, plantation etc.
- 5,000 m³ Reservoir to collect and recycle the water.
- Zero discharge is being maintained.
- Regular monitoring of ground water.



Recycling arrangement (storage cum pumping arrangement)



Sewage Treatment Plan

8. World Environment Day Celebration: World Environment Day was celebrated on **5th June 2025**. Various competitions were organized, for example painting competition on Land restoration and beat the plastic, Quiz competition on environment & sustainability, poster, slogan & birdfeeder making, Environment games, Sustainability pledge, River cleaning drive etc. and prizes were distributed to the winners. Plantation was also done by participants at designated site.



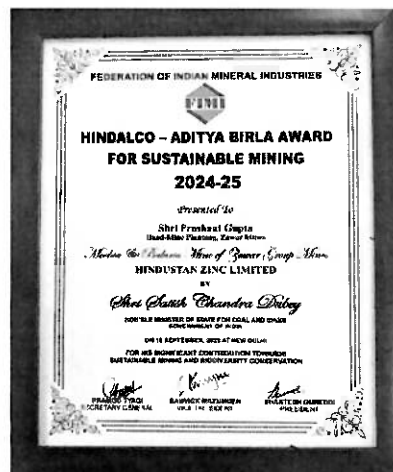
9. World Ozone Day: On the occasion of world ozone day 16th September we have organized various quiz competition, Ozone Day awareness session and Pledge for school children.



10. Energy Conservation Week Celebration: Celebrated energy conservation week in which various events like poster, slogan & crossword competition were organized. Conserve to preserve hour organized in office premises. Organized **No Vehicle Day** on 13th December.



11. FIMI Award: FIMI Awards has selected Mochia & Balaria Mine of Zawar Group Mines of Hindustan Zinc Limited for Hindalco – Aditya Birla Award for Sustainable Mining for its efforts towards biodiversity conservation and sustainable mining.



12. CII-ITC Sustainability Award- Zawar Mines received the CII-ITC Sustainability Award in Environment Excellence domain Presented by Hon'ble Vice President of India. The purpose of this award is to identify the characteristics of environmental awards and analyze their relevance to the environmental commitment of organizations.



13. Earth Day Celebration: Spread Environment awareness across various schools of Zawar Mines including seed ball making competition for school children and giving importance of tree plantation.



AMBIENT AIR QUALITY MONITORING (All units are in µg/m³)

Apr -25							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	66.1	38.4	7.6	12.5	916	0.18
2	Mochia Mine	52	31.6	6.3	9.5	687	<0.10
3	Balaria Mine	58.5	34.9	7.2	10.5	802	0.14
4	Administrative Block	72	44	12.8	20.9	1260	0.34
5	Zawar Mala Mine	54.2	32	7	9.6	573	0.10
6	Baroi Mine	65	38.7	7.4	11.5	916	0.15
Prescribed Limits		100	60	80	80	2000	1

May -25							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	63.7	38	7.7	12	916	0.20
2	Mochia Mine	58.2	34	7	9.8	802	0.14
3	Balaria Mine	56.1	33.8	6.3	9.9	573	<0.10
4	Administrative Block	63.3	38	9.1	14.6	916	0.30
5	Zawar Mala Mine	69.5	41.3	9.2	15.6	1145	0.30
6	Baroi Mine	60.7	35.8	7.1	11.8	573	0.18
Prescribed Limits		100	60	80	80	2000	1

Jun -25							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	58.6	35.3	7.4	11	802	0.15
2	Mochia Mine	55	32.8	6.7	8.6	687	0.12
3	Balaria Mine	52.7	31.6	6.2	8.7	687	<0.10
4	Administrative Block	60.5	35.3	8.9	13.2	802	0.17
5	Zawar Mala Mine	62	37.1	8.3	12.8	916	0.18
6	Baroi Mine	56	34	6.9	10.6	687	0.13
Prescribed Limits		100	60	80	80	2000	1

Jul -25							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	66.1	38.9	7.6	12.8	916	0.22
2	Mochia Mine	64	37.6	6.8	10.5	802	0.12
3	Balaria Mine	52.5	32.3	6.7	9.9	687	0.11
4	Administrative Block	70.2	41.8	8.5	14.2	1031	0.25
5	Zawar Mala Mine	55.8	33	6.6	9.7	573	0.12
6	Baroi Mine	52.9	32	7.4	9.3	573	0.11
Prescribed Limits		100	60	80	80	2000	1

Aug -25							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	60.4	35.6	7.2	10.5	802	0.16
2	Mochia Mine	56.6	34	6.5	9.1	687	0.10
3	Balaria Mine	50.4	29.7	6.2	8.3	573	0.10
4	Administrative Block	64	38.1	7.8	12.6	916	0.18
5	Zawar Mala Mine	54.3	32	6.2	8.9	687	0.10
6	Baroi Mine	50.2	30.6	6.6	8.5	687	0.12
Prescribed Limits		100	60	80	80	2000	1

Sep -25							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	66.7	40.3	8.2	11.6	916	0.18
2	Mochia Mine	62.3	37.4	7.6	11.6	802	0.16
3	Balaria Mine	58.8	35.2	6.8	10.5	802	0.14
4	Administrative Block	69.7	41.5	8.9	13.5	1031	0.20
5	Zawar Mala Mine	63.5	37.8	6.9	10.5	916	0.18
6	Baroi Mine	54	32.3	6.9	9.7	802	0.14
Prescribed Limits		100	60	80	80	2000	1

Oct -25							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	72.6	44	9.5	15.2	1031	0.26
2	Mochia Mine	60.4	35.5	6.5	10.1	802	0.11
3	Balaria Mine	55.9	33.2	7.1	10.5	802	0.14
4	Administrative Block	76	47.5	10.3	16.4	1145	0.29
5	Zawar Mala Mine	59.5	35.2	6.9	10.3	802	0.14
6	Baroi Mine	56.5	34.2	7.6	9.9	687	0.12
Prescribed Limits		100	60	80	80	2000	1

Nov -25							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	57.3	33.8	6.9	9.7	687	0.12
2	Mochia Mine	62.7	37.6	7.5	10.2	916	0.13
3	Balaria Mine	55	33	6.6	9.7	687	0.11
4	Administrative Block	68.5	40.9	8.3	13	1031	0.22
5	Zawar Mala Mine	59	35.8	6.6	9.5	802	0.13
6	Baroi Mine	57.7	35	6.9	9.2	802	0.14
Prescribed Limits		100	60	80	80	2000	1

Dec -25							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	65.1	39.4	7.6	12.5	916	0.2
2	Mochia Mine	59.6	35.4	7.2	11.8	916	0.18
3	Balaria Mine	56.1	34.3	6.8	10.4	802	0.15
4	Administrative Block	74.6	44.2	12.5	21.7	1260	0.37
5	Zawar Mala Mine	60.4	35.8	7.3	11.5	802	0.15
6	Baroi Mine	63.8	38.0	7.4	11.3	916	0.22
Prescribed Limits		100	60	80	80	2000	1

Jan -26							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	75.0	47.0	11.2	16.6	1145	0.30
2	Mochia Mine	62.7	38.0	6.9	10.8	916	0.14
3	Balaria Mine	58.2	35.0	7.3	12.0	916	0.15
4	Administrative Block	79.5	48.0	12.0	18.7	1260	0.33
5	Zawar Mala Mine	64.0	38.5	7.6	11.8	916	0.18
6	Baroi Mine	60.6	36.0	7.8	10.5	802	0.13
Prescribed Limits		100	60	80	80	2000	1

Feb -26							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	59.0	35.4	6.7	9.5	687	0.13
2	Mochia Mine	64.8	38.7	7.2	10.5	916	0.14
3	Balaria Mine	57.5	34.3	6.6	9.5	802	0.12
4	Administrative Block	77.8	46.5	8.4	13.0	916	0.21
5	Zawar Mala Mine	58.7	35.0	6.8	9.1	916	0.14
6	Baroi Mine	59.6	36.0	6.8	9.1	802	0.15
Prescribed Limits		100	60	80	80	2000	1

Mar -26							
S.No.	STATIONS	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Pb
1	Mill Office	67.9	40.6	7.3	12.9	916	0.20
2	Mochia Mine	59.8	35.9	7.8	11.4	804	0.12
3	Balaria Mine	56.1	35.2	6.3	11.2	802	0.14
4	Administrative Block	77.2	46.4	12.8	23.2	1145	0.39
5	Zawar Mala Mine	61.5	36.9	7.5	12.2	802	0.16
6	Baroi Mine	68.9	40.6	8.2	11.8	916	0.29
Prescribed Limits		100	60	80	80	2000	1

STACK MONITORING AT ZAWAR GROUP OF MINES

All units are in mg/Nm³

Month	Mochia Crusher Stack	Balaria Crusher Stack	DE - 2 (Mill - 2)	D.G. Set Stack			
Parameters	PM	PM	PM	PM	NO _x	CO	NMHC
Prescribed Limits by RSPCB	150	150	150	75	710	150	100
Apr-25	29.4	27.6	28.9	-	-	-	-
May-25	27.2	26.2	26.8	-	-	-	-
Jun-25	26.5	28.3	26.2	49.4	550	117.3	72.2
Jul-25	28	27.5	27.8	-	-	-	-
Aug-25	29.2	27	26.6	-	-	-	-
Sep-25	28.1	26.6	27.5	47.2	508	103.6	67.5
Oct-25	27.2	26	26.9	-	-	-	-
Nov-25	28.5	25.4	25.7	-	-	-	-
Dec-25	28.6	28.9	28.2	48	606	115.7	78.3
Jan-26	28.2	28.5	27.7	-	-	-	-
Feb-26	29.4	29	28.5	-	-	-	-
Mar-26	26	26.9	27.4	51	590	108.7	77.5

Ground Water wells quality at Zawar Group of Mines

Ground Water Quality at Zawar Group of Mines								
May-25								
S.No.	Parameters	IS : 10500:2012		Zawarmata Hand pump	Zawarmata Well	Naka Well	Mahadev ki Nal Well	Tiger Well
		Acceptable	Permissible					
1	pH	6.5-8.5	No Relaxation	7.40	7.31	7.63	6.73	7.56
2	Chlorides	250	1000	69.98	121.96	45.98	65.98	69.98
3	TSS	-	-	<5	<5	<5	<5	<5
4	Zinc	5	15	0.06	0.04	0.01	0.12	0.02
5	Lead	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
6	Iron	1.0	No Relaxation	0.03	0.04	0.02	0.05	0.03
7	Copper	0.05	1.5	<0.01	<0.01	<0.01	<0.01	<0.01
8	Cadmium	0.003	No Relaxation	<0.003	<0.003	<0.003	<0.003	<0.003
9	Cyanides	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
10	Nickel	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
11	Cobalt	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
12	Chromium	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
13	Total Organic Carbon	-	-	1	1.6	<0.5	1.5	0.7
Except pH all values are in mg/lit.								

Ground Water Quality at Zawar Group of Mines								
Aug-25								
S.No.	Parameters	IS : 10500:2012		Zawarmata Hand pump	Zawarmata Well	Naka Well	Mahadev ki Nal Well	Tiger Well
		Acceptable	Permissible					
1	pH	6.5-8.5	No Relaxation	7.31	7.20	7.43	6.79	7.11
2	Chlorides	250	1000	51.98	87.97	53.98	57.98	73.98
3	TSS	-	-	<5	<5	<5	<5	<5
4	Zinc	5	15	0.04	0.03	0.01	0.08	0.03
5	Lead	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
6	Iron	1.0	No Relaxation	0.02	0.03	0.02	0.04	0.03
7	Copper	0.05	1.5	<0.01	<0.01	<0.01	<0.01	<0.01
8	Cadmium	0.003	No Relaxation	<0.003	<0.003	<0.003	<0.003	<0.003
9	Cyanides	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
10	Nickel	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
11	Cobalt	-	-	<0.01	<0.01	<0.01	<0.01	<0.01

12	Chromium	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
13	Total Organic Carbon	-	-	0.8	2.0	<0.5	1.2	1.0

Except pH all values are in mg/lit.

Ground Water Quality at Zawar Group of Mines								
Nov-25								
S.No.	Parameters	IS : 10500:2012		Zawarmata Hand pump	Zawarmata Well	Naka Well	Mahadev ki Nal Well	Tiger Well
		Acceptable	Permissible					
1	pH	6.5-8.5	No Relaxation	7.65	7.93	7.92	7.19	7.55
2	Chlorides	250	1000	55.98	53.98	53.98	87.97	69.98
3	TSS	-	-	<5	<5	<5	<5	<5
4	Zinc	5	15	0.02	0.02	0.02	0.10	0.04
5	Lead	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
6	Iron	1.0	No Relaxation	0.02	0.02	0.02	0.04	0.03
7	Copper	0.05	1.5	<0.01	<0.01	<0.01	<0.01	<0.01
8	Cadmium	0.003	No Relaxation	<0.003	<0.003	<0.003	<0.003	<0.003
9	Cyanides	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
10	Nickel	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
11	Cobalt	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
12	Chromium	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
13	Total Organic Carbon	-	-	<5	<5	<5	6.5	7.1

Except pH all values are in mg/lit.

Ground Water Quality at Zawar Group of Mines								
Dec-25								
S.No.	Parameters	IS : 10500:2012		Zawarmata Hand pump	Zawarmata Well	Naka Well	Mahadev ki Nal Well	Tiger Well
		Acceptable	Permissible					
1	pH	6.5-8.5	No Relaxation	7.49	7.43	7.76	8.01	7.44
2	Chlorides	250	1000	49.98	69.98	57.98	47.98	71.98
3	TSS	-	-	<5	<5	<5	<5	<5
4	Zinc	5	15	0.02	0.06	0.02	0.05	0.03
5	Lead	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
6	Iron	1.0	No Relaxation	0.02	0.04	0.02	0.02	0.03
7	Copper	0.05	1.5	<0.01	<0.01	<0.01	<0.01	<0.01
8	Cadmium	0.003	No Relaxation	<0.003	<0.003	<0.003	<0.003	<0.003

9	Cyanides	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
10	Nickel	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
11	Cobalt	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
12	Chromium	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
13	Total Organic Carbon	-	-	<2	<2	<2	<2	2.5

Except pH all values are in mg/l.

Ground Water Quality at Zawar Group of Mines								
Jan-26								
S.No.	Parameters	IS : 10500:2012		Zawarmata Hand pump	Zawarmata Well	Naka Well	Mahadev ki Nal Well	Tiger Well
		Acceptable	Permissible					
1	pH	6.5-8.5	No Relaxation	7.70	7.17	7.96	7.04	7.59
2	Chlorides	250	1000	37.99	103.97	59.98	63.98	67.98
3	TSS	-	-	<5	<5	<5	<5	<5
4	Zinc	5	15	0.02	0.06	0.02	0.05	0.03
5	Lead	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
6	Iron	1.0	No Relaxation	0.02	0.03	0.02	0.02	0.03
7	Copper	0.05	1.5	<0.01	<0.01	<0.01	<0.01	<0.01
8	Cadmium	0.003	No Relaxation	<0.003	<0.003	<0.003	<0.003	<0.003
9	Cyanides	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
10	Nickel	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
11	Cobalt	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
12	Chromium	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
13	Total Organic Carbon	-	-	<1	4.3	<1	6.3	3.2

Except pH all values are in mg/l.

Ground Water Quality at Zawar Group of Mines								
Mar-26								
S.No.	Parameters	IS : 10500:2012		Zawarmata Hand pump	Zawarmata Well	Naka Well	Mahadev ki Nal Well	Tiger Well
		Acceptable	Permissible					
1	pH	6.5-8.5	No Relaxation	7.89	7.78	7.99	8.09	8.12
2	Chlorides	250	1000	65.98	61.98	65.98	83.97	67.98
3	TSS	-	-	<5	<5	<5	<5	<5
4	Zinc	5	15	0.03	0.04	0.03	0.08	0.05
5	Lead	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01

6	Iron	1.0	No Relaxation	0.02	0.04	0.02	0.02	0.03
7	Copper	0.05	1.5	<0.01	<0.01	<0.01	<0.01	<0.01
8	Cadmium	0.003	No Relaxation	<0.003	<0.003	<0.003	<0.003	<0.003
9	Cyanides	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
10	Nickel	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
11	Cobalt	-	-	<0.01	<0.01	<0.01	<0.01	<0.01
12	Chromium	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01
13	Total Organic Carbon	-	-	<5	<5	<5	<5	<5

Except pH all values are in mg/lt.

Piezometer Well Water Quality at Zawar Group of Mines

Piezometer Well Water Quality at Zawar Group of Mines									
Jun-25									
S.No.	Parameters	IS : 10500:2012		Near Bridge Vala Patel House (Pz - 01)	Near In front of Old Tailing Dam (Pz -02)	Near Tailing Dam Pump House (Pz - 03)	Near Magazine Area (Pz -04)	Near Below Tailing Pipe Lines (Pz -05)	Near Way to Tailing Dam Road (Pz -06)
		Accept able	Permissible						
1	pH	6.5-8.5	No Relaxation	7.25	7.80	7.20	6.64	7.58	6.58
2	Chlorides	250	1000	33.99	87.97	61.98	57.98	49.99	41.98
3	Zinc	5	15	0.06	0.17	0.05	0.06	0.04	0.04
4	Lead	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
5	Iron	1.0	No Relaxation	<0.01	0.04	0.06	0.04	0.02	0.02
6	Copper	0.05	1.5	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
7	Cadmium	0.003	No Relaxation	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
8	Nickel	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9	Chromium	0.05	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
10	Cyanide	0.05	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11	Cobalt	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01

Piezometer Well Water Quality at Zawar Group of Mines

Dec-25

S.No.	Parameters	IS : 10500:2012		Near Bridge Vala Patel House (Pz – 01)	Near In front of Old Tailing Dam (Pz –02)	Near Tailing Dam Pump House (Pz – 03)	Near Magazine Area (Pz -04)	Near Below Tailing Pipe Lines (Pz –05)	Near Way to Tailing Dam Road (Pz –06)
		Accept able	Permissible						
1	pH	6.5-8.5	No Relaxation	6.66	7.9	6.87	7.04	7.28	7.25
2	Chlorides	250	1000	17.99	17.99	105.97	103.97	33.99	39.99
3	Zinc	5	15	0.12	0.43	0.05	0.13	0.11	0.07
4	Lead	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
5	Iron	1.0	No Relaxation	<0.01	<0.01	0.06	0.06	0.02	<0.01
6	Copper	0.05	1.5	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
7	Cadmium	0.003	No Relaxation	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
8	Nickel	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9	Chromium	0.05	No Relaxation	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
10	Cyanide	0.05	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11	Cobalt	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
12	Total Organic Carbon	-	-	<2	<2	3.6	2.8	<2	<2

Except pH all values are in mg/lit

Piezometer Well Water Quality at Zawar Group of Mines

Mar-26

S.No.	Parameters	IS : 10500:2012		Near Bridge Vala Patel House (Pz - 01)	Near In front of Old Tailing Dam (Pz -02)	Near Tailing Dam Pump House (Pz - 03)	Near Magazine Area (Pz -04)	Near Below Tailing Pipe Lines (Pz -05)	Near Way to Tailing Dam Road (Pz -06)
		Accept able	Permissible						
1	pH	6.5-8.5	No Relaxation	7.53	7.11	6.84	7.14	7.04	7.10
2	Chlorides	250	1000	45.98	65.97	103.96	61.98	259.98	63.97
3	Zinc	5	15	0.13	0.44	0.06	0.10	0.08	0.12
4	Lead	0.01	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
5	Iron	1.0	No Relaxation	<0.01	<0.01	0.07	0.06	0.02	<0.01
6	Copper	0.05	1.5	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
7	Cadmium	0.003	No Relaxation	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
8	Nickel	0.02	No Relaxation	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
9	Chromium	0.05	No Relaxation	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
10	Cyanide	0.05	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
11	Cobalt	-	-	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
12	Total Organic Carbon	-	-	<5	<5	<5	<5	<2	<5

Except pH all values are in mg/lt

Ground Water Level Monitoring at Zawar Group of Mines

S.No.	Piezometers	Apr-25(m)	May-25(m)	Jun-25(m)	Jul-25 (m)	Aug-25 (m)	Sep-25(m)
1.	Near Bridge (Vala Patel House) (Pz – 01)	2.33	2.38	2.53	2.05	1.88	0.86
2.	Near In front of Old Tailing Dam (Pz – 02)	2.45	2.50	2.60	2.58	2.30	1.81
3.	Near Tailing Dam Pump House (Pz – 03)	2.93	2.96	3.07	2.53	2.43	1.20
4.	Near Magazine Area (Pz – 04)	5.12	5.25	5.35	5.53	5.10	1.63
5.	Near Below Tailing Pipe Lines (Pz – 05)	2.27	3.35	3.43	3.27	3.17	1.38
6.	Near Way to Tailing Dam Road (Pz – 06)	2.86	2.91	3.35	2.71	2.43	1.30

S.No.	Piezometers	Oct-25(m)	Nov-25(m)	Dec-25(m)	Jan-26 (m)	Feb-26 (m)	Mar-26(m)
1.	Near Bridge (Vala Patel House) (Pz – 01)	1.05	1.12	1.21	1.36	1.48	1.92
2.	Near In front of Old Tailing Dam (Pz – 02)	5.76	5.81	5.62	7.46	7.71	8.11
3.	Near Tailing Dam Pump House (Pz – 03)	1.11	1.73	1.88	1.84	2.15	2.56
4.	Near Magazine Area (Pz – 04)	3.07	3.12	3.40	6.23	6.43	6.90
5.	Near Below Tailing Pipe Lines (Pz – 05)	4.55	4.63	4.33	5.84	6.18	6.55
6.	Near Way to Tailing Dam Road (Pz – 06)	1.58	1.66	1.71	2.50	2.89	3.50

S.No.	Wells in the area	Apr-25(m)	May-25(m)	Jun-25(m)	Jul-25 (m)	Aug-25 (m)	Sep-25(m)
1.	Zawarmata Well	4.547	4.851	4.977	4.25	3.65	2.030
2.	Mahadev ki Nal Well	1.993	2.195	2.314	2.03	1.77	0.963

S.No.	Wells in the area	Oct-25(m)	Nov-25(m)	Dec-25(m)	Jan-26 (m)	Feb-26 (m)	Mar-26(m)
1.	Zawarmata Well	2.03	3.105	3.157	3.296	4.768	4.915
2.	Mahadev ki Nal Well	0.963	1.440	1.495	1.507	4.265	4.46

ANALYSIS OF MINE WATER AT ZAWAR GROUP OF MINES

1. Mochia Mine Water Report

Parameters	Effluent Standards as per IS:2490	Apr-25	Jul-25	Oct-25	Jan- 26
pH	5.5-9.0	6.94	6.87	7.47	8.25
Chlorides	1000	193.94	109.97	177.94	183.94
Hardness	-	480	584	496	512
Total Solids	2200	1249	1258	1054	1001
Total D.S.	2100	1241	1238	1041	989
Total S.S.	100	8	20	13	12
Zinc	5.0	0.10	0.12	0.1	0.12
Lead	0.10	<0.01	<0.01	<0.01	<0.01
Iron	3.0	0.08	0.06	0.05	0.05
Copper	3.0	<0.01	<0.01	<0.01	<0.01
Cadmium	2.0	<0.003	<0.003	<0.003	<0.003
Cyanide	0.2	<0.01	<0.01	<0.01	<0.01
Except pH all values are in mg/ltr					

2. Balaria Mine Water Report

Parameters	Effluent Standards as per IS:2490	Apr-25	Jul-25	Oct-25	Jan- 26
pH	5.5-9.0	6.81	7.08	7.56	6.74
Chlorides	1000	319.9	17.94	127.96	125.96
Hardness	-	348	588	500	488
Total Solids	2200	1497	1359	1042	1043
Total D.S.	2100	1483	1348	1034	1037
Total S.S.	100	14	11	8	6
Zinc	5.0	0.50	0.20	0.17	0.14
Lead	0.10	<0.01	<0.01	<0.01	<0.01
Iron	3.0	0.10	0.07	0.05	0.05
Copper	3.0	<0.01	<0.01	<0.01	<0.01
Cadmium	2.0	<0.003	<0.003	<0.003	<0.003
Cyanide	0.2	<0.01	<0.01	<0.01	<0.01
Except pH all values are in mg/ltr					

3. Zawarmala Mine Water Report

Parameters	Effluent Standards as per IS:2490	Apr-25	Jul-25	Oct-25	Jan- 26
pH	5.5-9.0	7.04	6.97	7.45	7.34
Chlorides	1000	297.9	169.95	137.96	131.96
Hardness	-	528	592	508	488
Total Solids	2200	1528	1232	1175	1115
Total D.S.	2100	1520	1217	1168	1110
Total S.S.	100	8	15	7	<5
Zinc	5.0	0.09	0.27	0.22	0.18
Lead	0.10	<0.01	<0.01	<0.01	<0.01
Iron	3.0	0.16	0.06	0.06	0.05
Copper	3.0	<0.01	<0.01	<0.01	<0.01
Cadmium	2.0	<0.003	<0.003	<0.003	<0.003
Cyanide	0.2	<0.01	<0.01	<0.01	<0.01
Except pH all values are in mg/ltr					

2

Parameters	Effluent Standards as per IS:2490	Apr-25	Jul-25	Oct-25	Jan- 26
pH	5.5-9.0	7.13	6.54	7.65	6.89
Chlorides	1000	153.9	109.97	121.96	121.96
Hardness	-	412	568	428	428
Total Solids	2200	966	1272	936	977
Total D.S.	2100	958	1254	927	971
Total S.S.	100	8	18	9	6
Zinc	5.0	0.18	0.10	0.08	0.08
Lead	0.10	<0.01	<0.01	<0.01	<0.01
Iron	3.0	0.05	0.06	0.05	0.05
Copper	3.0	<0.01	<0.01	<0.01	<0.01
Cadmium	2.0	<0.003	<0.003	<0.003	<0.003
Cyanide	0.2	<0.01	<0.01	<0.01	<0.01
Except pH all values are in mg/ltr					

Analysis of Tailing Dam Reclaim Water Zawar Group of Mines

Except pH all values are in ppm.

[illegible]

HINDUSTAN ZINC LIMITED**Ashok Nagar STP Analysis Report for 2025-26**Except pH all value are in mg/lit

Parameters	Limits As per CTO	Apr- 25	May- 25	Jun- 25	Jul-25	Aug-25	Sep- 25	Oct- 25	Nov- 25	Dec- 25	Jan-26	Feb-26	Mar- 26
Total Suspended Solids	100	<5	7	8	13	14	18	10	19	14	12	16	16
pH Value	5.5- 9.0	7.04	7.37	6.96	6.87	6.85	7	7.58	7.21	7.22	7.04	7.43	7.26
Oil and Grease	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Residual Chlorine	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonical Nitrogen (as N)	50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Kjeldahl Nitrogen (as NH ₃)	100	<5	5.5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Biochemical Oxygen Demand (3 days at 27°C)	30	6	9	7	9	8	9	8	8	8.5	7.6	8	7
Sulphide (as S)	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorides	1000	137.9	157.9	123.9	141.9	119.9	58	66.0	123.9	73.9	69.0	129.9	73.9
Sulphates	1000	215.4	245.3	210.9	218.5	185.7	22.9	28.2	194.5	92.1	36.7	244.1	92.1
Chemical Oxygen Demand	250	35	48	35	46	44	49	45	47	44	40	45	40



Ram Nagar STP Analysis Report for 2025-26

Except pH all value are in mg/lit

Parameters	Limits As per CTO	Apr- 25	May- 25	Jun- 25	Jul-25	Aug-25	Sep- 25	Oct- 25	Nov- 25	Dec- 25	Jan-26	Feb-26	Mar- 26
Total Suspended Solids	100	8	8	9	15	16	14	15	12	14	14	13	18
pH Value	5.5- 9.0	7.20	7.28	7.11	7.37	7.08	6.63	7.14	7.42	7.18	7.24	7.32	7.08
Oil and Grease	10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Residual Chlorine	1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ammonical Nitrogen (as N)	50	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Total Kjeldahl Nitrogen (as NH ₃)	100	<5	5.0	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Biochemical Oxygen Demand (3 days at 27°C)	30	7	8	8	9	8	7	7	6	8	8	7.9	8
Sulphide (as S)	2	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Chlorides	1000	153.9	175.9	145.9	123.9	133.9	70.0	64.0	111.9	77.9	72.0	143.9	77.9
Sulphates	1000	228.4	263.6	260.2	194.5	212.9	37.9	35.4	160.7	98.6	40.6	230.6	98.6
Chemical Oxygen Demand	250	45	40	45	48	40	37	40	33	40	45	38	40