

**INDIAN BUREAU OF MINES  
MINERALS DEVELOPEMMENT AND REGULATION DIVISION**

**MCDR INSPECTION REPORT**

**Gandhinagar regional office**

**Mine file No :** RAJ/UDP/PB-ZN-2

**Mine code :** 34RAJ26004

- (i) Name of the Inspecting : **DJ03** ) **DILIP JAIN**  
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Mrs. Hannelie Hanson, Mine Agent and Shri Nand Lal Sw  
Official with  
Designation
- (iv) Date of Inspection : 28-MAR-23
- (v) Prev.inspection date : 12-OCT-22

**PART-I : GENERAL INFORMATION**

1. (a) **Mine Name** : **ZAWARMALA**
- (b) **Registration NO.** : **IBM/421/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Underground
- (e) Postal address  
State : RAJASTHAN  
District : UDAIPUR  
Village : ZAWAR  
Taluka : GIRWA  
Post office : ZAWAR MINES  
Pin Code :  
FAX No. : 0294-2412545  
E-mail : arun.mishra@vedanta.co.in  
Phone : 0294-6604120
- (f) Police Station : Zawar Mines
- (g) First opening date : 01-APR-50
- (h) Weekly day of rest : MON
2. Address for : VILL-ZAWAR  
correspondance : POST-ZAWARMALA,P.O=Goverdhanvilash  
DISTT-UDAIPUR
3. (a) Lease Number : RAJ1725
- (b) Lease area : 816
- (c) Period of lease : 80
- (d) Date of Expiry : 31-MAR-30
4. Mineral worked : LEAD & ZINC ORE Main

## 5. Name and Address of the

Lessee : Hindustan Zinc Ltd.  
Yashad Bhavan Udaipur  
UDAIPUR RAJASTHAN  
Phone:  
FAX :

Owner : Sri Arun Mishra  
Yashad Bhavan, Udaipur  
Rajasthan UDAIPUR  
RAJASTHAN  
Phone:  
FAX : 0294-2412545

Agent : M/S Hannelie Hanson  
Zawarmala Pb-Zn Mine, M/s  
HZL Post: Zawar Mines,  
Udaipur Rajasthan. UDAIPUR  
RAJASTHAN  
Phone: 9773347500  
FAX :

## Mining Engineer

Name : Shri Sazal, Full Time  
Qualification : BE Mining  
Appointment/ : 23-JAN-19  
Termination date

## Geologist

Name : Shri Shashi Shukla, Full Time  
Qualification : M.Sc. Geology  
Appointment/ : 14-JAN-22  
Termination date

## Geologist

Name : Sri Prasanta Biswas, Full Time  
Qualification : M.Sc. Geology  
Appointment/ : 17-MAR-20 13-JAN-22  
Termination date

## Manager

Name : Sri Lokesh Paliwal  
Qualification : Be.Mining  
Appointment/ : 02-JUL-19 16-JAN-23  
Termination date

## Manager

Name : Shri Nand Lal Swami  
Qualification : ME Mining  
Appointment/ : 17-JAN-23  
Termination date

6. Date of approval of Mining Plan/Scheme of Mining : PMCP under 23B(1) for Renewal 21-AUG-09  
MP modif under 17(3) MCR 2016 17-MAY-19  
MP review under 17(1) MCR 2016 17-DEC-19  
MP modif under 17(3) MCR 2016 15-JUL-21

## PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

## Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	A total of 80 BHs with 18000 mts of drilling was proposed during previous year 2021-22.	A total of 81 BHs with 19167 mts of drilling has been done during previous year 2021-22.	No short fall during previous year.
1b	Exploration over lease area for geological axis 1 or 2	A total of 80 BHs with 18000 mts of drilling was proposed during reporting year (RY) 2022-23.	A total of 117 BHs with 18147.15 mts of drilling was completed during reporting year (RY) 2022-23.	Surface and UG exploration for Baroi Mine.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No specific proposal about drilling agency.	Surface Exploration: MAPL, TDMA and Underground Exploration: EFMCP, TDMA. Total Expenditure: Rs. 61923913/-	NIL.
1d	Balance area to be explored to bring Geological axis in 1 or 2	An area of 0.20 hectare of G3 level proposed to explore under G2/G1 level.	No area has been upgraded during the RY.	Violation of MCDR, 2017 prepared.
1e	Balance reserve as on 01/04/20	The position of reserve and resources as on 01/04/2021 was 3.01 and 5.95 million tons respectively.	The position of reserve and resources as on 01/04/2023 was 2.28 and 5.95 million tons respectively.	Depletion of 0.729 million tons from 2021-22 to 2022-23.
1f	General remarks of inspecting officers on geology, exploration etc	A total of 80 BHs with 18000 mts of drilling was proposed during reporting year (RY) 2022-23.	A total of 117 BHs with 18147.15 mts of drilling was completed during reporting year (RY) 2022-23.	Geologically the area is complex in nature. 3D modeling technique is being used for correlation of ore zone etc.

## Development :

Sl.No.	Item	Proposals	Actual work	Remarks
--------	------	-----------	-------------	---------

2a	Location of development w.r.t. lease area	A total of 4200 mts (Horizontal and vertical) of development was proposed in C. Zone, E. Zone and Soth Zawarmala.	During the RY, a total of 2477.61 mts (Horizontal and vertical) development has been achieved in C. Zone, E. Zone and W. Zone.	Violation of MCDR, 2017 is prepared for less development.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable as mining operation has been proposed through UG Mining Method.	Not applicable.	NIL.
2c	Stripping ratio or ore to OB ratio	Not applicable being a UG mine.	Not applicable.	NIL.
2d	Quantity of topsoil generation in m3	No proposal of topsoil generation during the RY.	No topsoil has been generated during the RY.	NIL.
2e	Quantity of overburden generation in m3	A total of 86000 tons of waste have been proposed to generate through UG development.	A total of 61902.00 tons of waste have been generated during RY.	Less generation of waste due to less development.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Underground development has been proposed through burn cut method.	As per proposal.	The method of development proposed is suitable for the type of the deposit.

### Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	A total of 05 Stope blocks at different level has been proposed for stoping operation.	Stoping operation has been carried out in 03 stope blocks.	Shortfall due to less development. Violation for less development issued.
3b	Quantity of ROM mineral production proposed	0.55 Million tons.	0.347 Million tons.	Less production in account of less development. Violation for less development issued.

3c	Recovery of sailable/usable mineral from ROM production	100%	100%	Entire ROM is being dispatch to the beneficiation plant located in lease area.
3d	Quantity of mineral reject generation	Mineral Reject (Mill tailing) generation- 495000 MT.	Entire ROM is subject to beneficiation. A quantity of 314910 tons (mill tailing) has been reported as mineral reject.	Less generation due to less production of ROM.
3e	Grade of mineral rejects generation and threshold value declared.	No proposal of grade.	The grade of mill tailing: 0.39 % (Pb+Zn).	NIL.
3f	Quantity of sub grade mineral generation.	No proposal of Sub-grade generation.	Not applicable.	NIL.
3g	Grade of sub grade mineral generation	Not applicable as no proposal of sub-grade generation.	Not applicable.	NIL
3h	Manual / Mechanised method adopted for segregating from ROM	No proposal of segregation as entire ROM is subject to beneficiation.	Entire ROM is being beneficiated.	NIL
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal of any fresh beneficiation study. However, beneficiation facility of 4.8 mtpa is already in place within lease boundary.	Beneficiation of ROM is being carried out as per proposal.	ROM from Mochia, Balaria and Baroi mine is also beneficiated at same location.
3j	Provision of drilling and blasting in mineral benches	Drilling pattern for development in ore and rock- Burn Cut method. Drilling pattern in Stopes- Ring drilling with parallel hole drilling.	Drilling and blasting have been carried out as per proposal in UG development and stopes.	NIL

3k	Provision of mining machineries in mineral benches	Twin Boom Jumbo, Loaders, LPDT, Grader, scaler and utility vehicles etc. has been proposed for mine development and stoping operation.	Twin Boom Jumbo, Loaders, LPDT, Grader, scaler and utility vehicles etc. has been found for mine development and stoping operation.	NIL.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not applicable being a UG mine.	Not applicable.	NIL
3m	Total area covered under excavation/pits	Not applicable being a UG mine.	Not applicable.	NIL
3n	Ore to OB ratio for the pit/mine during the year.	Not applicable being a UG mine.	Not applicable.	NIL
3o	Total area put in use under different heads at the end of year	Total area of 380.12 hectare has been proposed to put in use under different heads at the end of the year 2024-25.	An area of 321.23 has been utilized under different heads at the end of the year 2022-23.	Figures for entire Zawar lease area.
3p	Production of ROM mineral during the last five year period as applicable	2018-19: 300000 2019-20: 580000 2020-21: 540000 2021-22: 550000 2022-23: 550000	2018-19: 299995 2019-20: 435925 2020-21: 397728 2021-22: 381438 2022-23: 347383	All figures in Metric Tons (MT) for Zawarmala Mine.
3q	General remarks of inspecting officers on method of mining etc.	Transverse sublevel stoping with paste fill method of underground mining has been proposed.	Proposed method of mining is being practiced.	The method of mining proposed is suitable for the type of the deposit.

Sl.No.	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal of topsoil generation. OB/waste is proposed to dispose in UG stopes as well as for tailing dam construction. Mineral reject (Mill tailing) has been proposed to backfill in stope out area.	Topsoil has not been generated during the reporting year. Waste and mill tailing has been disposed as per proposal.	Mill tailing of 314910 MT of 0.39% (Pb+Zn) has been reported as Mineral reject.
4b	Location of topsoil, OB and mineral reject dumps	No proposal of topsoil generation. OB/waste is proposed to dispose in UG stopes as well as for tailing dam construction. Mineral reject (Mill tailing) has been proposed to backfill in stope out area.	Topsoil has not been generated during the reporting year. Waste and mill tailing has been disposed as per proposal.	Mill tailing of 314910 MT of 0.39% (Pb+Zn) has been reported as Mineral reject.
4c	Number of dumps within lease area and outside of lease area	No proposal.	Not applicable.	NIL
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable as Mining operations are being carried out through UG mining method.	Not applicable.	NIL
4e	Number of active and alive dumps.	No proposal.	Not applicable.	NIL
4f	Number of dead dumps.	No proposal.	Not applicable.	NIL
4g	Number of dumps established.	No proposal.	Not applicable.	NIL
4h	Whether Retaining wall or garland drain all along dumps are there.	Not applicable as no proposal of waste dumping.	Not applicable.	NIL

4i	Length of Retaining wall or garland drain all along dumps	No proposal.	Not applicable.	NIL
4j	Number of settling ponds	No proposal.	Not applicable.	NIL
4k	Specific comments of inspecting officer on waste dump management	OB/waste is proposed to dispose in UG stopes.	As per proposal.	Waste generated during development has been disposed in UG stopes. No issue related to waste dumping.

#### Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Backfilling or waste dumping in UG voids has been proposed.	Dumping of waste has been carried out in UG stopes.	NIL
5b	Area under backfilling of mined out area	Waste quantity of 83000 MT was proposed to backfill in UG voids.	Waste quantity of 60302.00 MT has been dispose in UG stopes.	NIL
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal of topsoil generation during reporting year.	No topsoil has been generated during the year.	NIL
5d	Total area fully reclaimed and rehabilitated	No proposal of full reclamation and or rehabilitation	Not applicable.	NIL
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling or waste dumping in UG voids has been proposed.	Dumping of waste has been carried out in UG stopes.	No issue related to backfilling.

#### Progressive Mine Clousre Plan:

Sl.No.	Item	Propasals	Actual work	Remarks
--------	------	-----------	-------------	---------



6a	Whether Annual report on PMCP submitted on time and correctly. Rule 23 E(2).	As per rule 26(2) of MCDR, 2017, PMCP report to be submitted for previous year by 1st July.	Annual PMCP report for reporting year i.e., 2022-23 is not yet due for submission.	NIL
6b	Area available for rehabilitation (ha) .	No proposal.	Not applicable.	NIL.
6c	afforestation done (ha).	5.0 Hectare area (gap filling).	5.0 Hectare area (gap filling).	Figures for entire Zawar lease area.
6d	No. of saplings planted during the year	5000 (within lease area).	4190 (within lease area).	Figures for entire Zawar lease area. Violation of MCDR, 2017 prepared for shortfall in number of plant.
6e	Cumulative no .of plants	No proposal on cumulative number of plants.	446815 no.	Figures for entire Zawar lease area.
6f	Any other method of rehabilitation	Other than plantation, no specific proposal of any other method of rehabilitation .	Not applicable.	NIL.
6g	Cost incurred on watch and care during the year	No specific proposal on cost of watch and care during the year.	As reported, approximately Rs 577400/-	Figures for entire Zawar lease area.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling ( Lx B x D	No specific proposal of area. A quantity of 83000 MT of waste has been proposed to dispose in UG stopes. Pate filling of 388800 tons of mill tailing was also proposed.	The waste quantity of 60302.00 MT of waste has been dispose in UG stopes. Past filling of 143987.2 tons. has been carried out during the RY.	Violation of MCDR, 2017 prepared for shortfall in paste filling.

6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation on on backfilled area	No proposal.	Not applicable.	NIL
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal.	Not applicable.	NIL
6l	Compliance on reclamation and rehabilitation by backfilling (v) any other specific means.	No proposal.	Not applicable.	NIL
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	5.0 Hectare area (gap filling) with 5000 number of saplings.	5.0 Hectare area gap filling) with 4190 number of saplings.	Figures for entire Zawar lease area. Violation for less plantation prepared.
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	No proposal.	Not applicable.	NIL
6o	Compliance of rehabilitation of waste land within lease (iii) Method of rehabilitation	Plantation (gap filling).	Plantation (gap filling).	NIL
6p	Compliance of environmental monitoring (core zone and buffer zone)	Provision of environment monitoring has been given.	Environment monitoring is being carried out and parameters are found to be within permissible limit.	NIL
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	An area of 5.0 hectare (gap filling) with 5000 number of saplings.	An area of 5.0 hectare (gap filling) with 4190 number of saplings. .	Violation of rule 11(1) of MCDR, 2017 prepared for shortfall in number of sapling planted.

---

Mineral Conservation:

---

Sl.No.	Item	Propasals	Actual work	Remarks
--------	------	-----------	-------------	---------

---

7a	ROM Mineral dispatch or grade-wise sorting within lease area	No specific proposal of grade wise sorting.	Entire ROM ore is being transported to Ore beneficiation plant.	NIL
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Not applicable as no grade wise sorting.	Not applicable.	NIL
7c	Different grade of mineral sorted out at mines.	No proposal.	Not applicable.	NIL
7d	Any beneficiation process at mines .	A beneficiation plant of 4.8 MTPA has been installed within lease area.	Beneficiation plant having capacity of 4.8 MTPA Installed. The process includes mainly crushing and grinding of ROM, Classification , differential flotation etc.	NIL
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No specific proposal.	Not applicable.	No issue related to mineral conservation.

---

**Environment:**

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal of topsoil generation.	Not applicable.	NIL
8b	Concurrent use or storage of topsoil	Not applicable as no proposal of top soil generation.	Not applicable.	NIL
8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	Waste has been proposed to dispose in UG stopes as well as for tailing dam construction. No proposal for fines generation.	Fines have not been generated during the year. Waste has been disposed in stoped out area.	NIL

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Waste proposed to dispose in stopped out area and tailing dam construction.	Generated waste has been disposed in U/G stoped out area and tailing dam co9nstruction.	NIL
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal.	Not applicable.	NIL
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	An area of 5.0 hectare (gap filling) with 5000 number of saplings.	An area of 5.0 hectare (gap filling) with 4190 number of saplings. .	Violation of rule 11(1) of MCDR, 2017 prepared for shortfall in number of sapling planted.
8g	Survival rate	No specific proposal of for survival rate.	90% (as reported during mine inspection).	NIL
8h	Water sprinkling on roads to control airborne dust	To control the air born dust particle, water sprinkling has been proposed over the roads by water tanker.	Water sprinkling has been observed.	NIL
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Waste proposed to dispose in stopped out area and tailing dam construction.	Generated waste has been disposed in U/G stoped out area.	Aesthetic beauty in and around mine is satisfactory as the working is being carried out through UG mining method.

---

#### Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	As per rule 45 of MCDR, monthly and annual returns to be submitted.	Monthly returns have been submitted for the reporting year. Annual return is yet not due for submission.	NIL

---

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Annual return is yet not due for submission.	Not applicable as annual return is yet not due for submission.	NIL
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Annual return is yet not due for submission.	Not applicable as annual return is yet not due for submission.	NIL
9d	Scrutiny of Annual return on afforestation	Annual return is yet not due for submission.	Not applicable as annual return is yet not due for submission.	NIL
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Annual return is yet not due for submission.	Not applicable as annual return is yet not due for submission.	NIL
9f	Scrutiny of Annual return on ROM stock and/or graded ore	Annual return is yet not due for submission.	Not applicable as annual return is yet not due for submission.	NIL
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Annual return is yet not due for submission.	Not applicable as annual return is yet not due for submission.	NIL
9h	Scrutiny of Annual return on fixed assets	Annual return is yet not due for submission.	Not applicable as annual return is yet not due for submission.	NIL
9k	Scrutiny of Annual return on mining machineries	Annual return is yet not due for submission.	Not applicable as annual return is yet not due for submission.	NIL

---

**Details of violations observed during current inspection and compliance position of violation pointed out**

Violation observed		Show couse position	
Rule NO.	Issued on Compliance on	Rule NO.	Issued on Compliance on

**Date :**

**(DILIP JAIN)**

Indian Bureau of Mines