

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

MCDR INSPECTION REPORT

Gandhinagar regional office

Mine file No : RAJ/RJS/LEAD-ZINC-COPPER-1

Mine code : 34RAJ27001

- (i) Name of the Inspecting : **DJ03**) **DILIP JAIN**
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Sri Sanjay Kumar, Mine Manager and Dr. Sandeep Rajput
Official with
Designation
- (iv) Date of Inspection : 28-AUG-23
- (v) Prev.inspection date : 20-DEC-22

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **RAJPURA DARIBA**
- (b) **Registration NO.** : **IBM/421/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Underground
- (e) Postal address
- State : RAJASTHAN
- District : RAJSAMAND
- Village : DARIBA
- Taluka : RAILMAGRA
- Post office : DARIBA
- Pin Code : 313211
- FAX No. : 02952-65143
- E-mail : arun.mishra@vedanta.co.in
- Phone : 0294-2421420
- (f) Police Station : Railmagra
- (g) First opening date : 28-DEC-70
- (h) Weekly day of rest : SUN
2. Address for : RAJPURA-DARIBA
correspondance : DISTRICT-RAJSAMAND(RAJ.)
PIN-313211
3. (a) Lease Number : RAJ0654
- (b) Lease area : 1142.2
- (c) Period of lease :
- (d) Date of Expiry : 29-MAY-30
4. Mineral worked : COPPER ORE Associated
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 : Nathu Singh Choudhary
 Rajpura Dariba Mine, PO-
 Dariba, Tehsil-Railmagra
 RAJSAMAND RAJASTHAN
 Phone: 02952-265164
 FAX : 0295-2265143

Mining Engineer

Name : Sanjay Kumar, Full Time
 Qualification : BE mining
 Appointment/ : 12-JUL-23
 Termination date

Mining Engineer

Name : Bharat Kumar Gaikwad, Full Time
 Qualification : BE Mining
 Appointment/ : 14-APR-22 12-JUL-23
 Termination date

Geologist

Name : Dr. Sandeep Kumar Rajput, Full Time
 Qualification : Ph.D., N.E.T
 Appointment/ : 15-JUN-20
 Termination date

Manager

Name : Bharat Kumar Gaikwad
 Qualification : BE (Mining)
 Appointment/ : 14-APR-22 12-JUL-23
 Termination date

Manager

Name : Sanjay Kumar
 Qualification : Be Mining
 Appointment/ : 12-JUL-23
 Termination date

6. Date of approval of Mining Plan/Scheme of Mining : Mining Scheme rule 12 MCDR1988 12-DEC-00
 Mining Scheme rule 12 MCDR1988 19-AUG-05
 Renewal under rule 22 MCR1960 26-MAY-09
 Modif. approved Mining Scheme 26-MAY-09
 Modif. of approved Mining Plan 19-OCT-12
 Mining Scheme rule 12 MCDR1988 22-JUL-15

MP modif under 17(3) MCR 2016	26-SEP-17
MP review under 17(1) MCR 2016	23-JAN-18
MP modif under 17(3) MCR 2016	10-MAY-19
MP review under 17(1) MCR 2016	26-JUN-20
MP modif under 17(3) MCR 2016	27-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 136 BHs with 29000 mts of drilling was proposed during previous year 2021-22.	A total of 164 BHs with 39230 mts of drilling was carried out during previous year 2021-22.	No backlog.
1b	Exploration over lease area for geological axis 1 or 2	A total of 192 BHs with 20000 mts of drilling was proposed during reporting year 2022-23.	A total of 220 BHs with 44192 mts of drilling was carried out during reporting year 2022-23.	Achievement is more than the proposal.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Exploration Agency: Transnational Drilling & Mining Associates. No proposal on expenditure.	Exploration Agency: Transnational Drilling & Mining Associates, M/s Onkarlal Baluram. Expenditure: Around Rs. 2018 lakh rupees	Nil.
1d	Balance area to be explored to bring Geological axis in 1 or 2	It is not a surficial deposit, it is vein type/lens type deposit, exploration drilling proposed to prove depth continuity of mineral and upgradation of resource to reserve.	Exploration has been carried out as per proposal during the year 2022-23.	Nil.
1e	Balance reserve as on 01/04/20	No specific proposal for balance reserve.	As on 01/04/2023 the position of reserve and resource was 34.29 and 39.28 million tons respectively.	As submitted under annual return for FY 2022-23.

1f	General remarks of inspecting officers on geology, exploration etc	A total of 192 BHs with 20000 mts of drilling was proposed during reporting year 2022-23.	A total of 220 BHs with 44192 mts of drilling was carried out during reporting year 2022-23.	Dariba Bethumni metallogenic belt comprises of an assemblage of medium-high grade metamorphic equivalents of Ortho-Quartzite, Carbonate and Carbonaceous facies rocks belonging to Bhilwara Super Group (3.5-2.5 Ga) of Archaen age and extends for about 19km in N-S direction.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development has been proposed in North Lode, East Lode, Main Lode and South Lode at various levels. A total of 13000 mts of development was proposed during the year 2022-23.	Development has been carried out in North Lode, East Lode, Main Lode and South Lode at various levels, a total development of 10540 mts has been carried out during the RY 2022-23.	Due to shortfall in mine development during the year 2022-23, violation of rule 11(1) of MCDR, 2017 issued.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable as mining operations were proposed through UG mining method.	Not applicable.	Nil.
2c	Stripping ratio or ore to OB ratio	Not applicable as mining operations were proposed through UG mining method.	Not applicable.	Nil.
2d	Quantity of topsoil generation in m3	No proposal of top soil generation during the RY 2022-23.	No top soil generated during the RY 2022-23.	Nil.

2e	Quantity of overburden generation in m3	No proposal of OB generation as mining operations was proposed through UG mining method. However, an quantity of 187737 m3 or 525664 MT of waste was proposed to generate through UG development.	No OB generation as mining operations were carried out through UG method. However, an quantity of 138856 m3 or 374910 MT of waste has been generated through UG development.	The shortfall in waste generation due to the less mine development.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	The development was proposed through UG mining Method.	The method of development was as per proposal.	The UG mechanized method has been adopted for carrying out mining operations in the lease area which is best suited to the type of the deposit.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Not applicable being an underground mine.	Not applicable.	Nil.
3b	Quantity of ROM mineral production proposed	2022-23: 2000000 MT	2022-23: 1390245 MT	Low production due to shortfall in mine development and ore production is due to poor rock conditions, presence of shear zones.
3c	Recovery of sailable/usable mineral from ROM production	2022-23: 2000000 MT	2022-23: 1390245 MT	Low production due to shortfall in mine development and ore production is due to poor rock conditions, presence of shear zones.
3d	Quantity of mineral reject generation	No proposal of mineral rejects (MR) generation.	Entire ROM is subject to beneficiation. No mineral reject generation.	Nil.

3e	Grade of mineral rejects generation and threshold value declared.	Not applicable as no proposal of mineral reject generation.	Not applicable.	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.	Beneficiation of ROM is being carried out as per proposal.	Nil.
3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal of any fresh beneficiation study.	Beneficiation of ROM is being carried out as per proposal.	Nil.
3j	Provision of drilling and blasting in mineral benches	Not applicable being an underground mine.	Not applicable.	Nil.
3k	Provision of mining machineries in mineral benches	Not applicable being an underground mine.	Not applicable.	Nil.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not applicable being an underground mine.	Not applicable.	Nil.
3m	Total area covered under excavation/pits	7.09 hect.	7.09 hect.	Nil.
3n	Ore to OB ratio for the pit/mine during the year.	Not applicable being an underground mine.	Not applicable.	Nil.
3o	Total area put in use under different heads at the end of year	Total area of 359.23 hect has been proposed at the end of the year 2024-25.	An area of 244.53 hect has been utilized at the end of the year 2022-23.	Nil.

3p	Production of ROM mineral during the last five year period as applicable	2018-19: 1200000 2019-20: 1500000 2020-21: 1500000 2021-22: 1550000 2022-23: 2000000	2018-19: 1079955 2019-20: 1037607 2020-21: 1215171 2021-22: 1252365 2022-23: 1390245	All figures in metric tons.
3q	General remarks of inspecting officers on method of mining etc.			Nil.

Solid Waste Management - Dumping:

Sl.No.	Item	Propasals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal of top soil and mineral reject generation. UG development waste was proposed to dispose in UG stopes and also proposed to dispose on existing waste dump.	No top soil generation during the RY. Mill tailing has been disposed in existing tailing dam.UG waste has been disposed in the UG stopes and also dumped over the existing waste dump.	Nil.
4b	Location of topsoil, OB and mineral reject dumps	Dumping of the waste has been proposed over the existing waste dump as well as backfilling in UG voids.	As per proposal.	Nil.
4c	Number of dumps within lease area and outside of lease area	One waste dump within lease and no waste dump outside lease area.	One waste dump within lease and no waste dump outside lease area.	Nil.
4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	Not applicable being an underground mine.	Not applicable.	Nil.
4e	Number of active and alive dumps.	One.	One.	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.	No proposal.	Retaining wall and garland drain observed at necessary places along the waste dump.	Nil.
4i	Length of Retaining wall or garland drain all along dumps	No proposal during the RY 2022-23.	Not applicable.	Nil.
4j	Number of settling ponds	No proposal of settling pond during the RY.	Not applicable. As no proposal.	Nil.
4k	Specific comments of inspecting officer on waste dump management	UG development waste was proposed to dispose in UG stopes and also proposed to dispose on existing waste dump.	UG mine development waste generated during the RY was disposed as per proposal.	Nil.

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 in stope dumping was proposed after full extraction of the mineral.	In stope dumping after full extraction of mineral.	Nil.
5b	Area under backfilling of mined out area	No specific proposal on area of backfilling.	Not applicable.	Nil.
5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal of top soil generation during the RY 2022-23	No top soil generated during the RY 2022-23.	Nil.
5d	Total area fully reclaimed and rehabilitated	No proposal of full reclamation and rehabilitation during RY.	Not applicable.	Nil.

5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling or in stope dumping was proposed after full extraction of the mineral.	In stope dumping after full extraction of mineral.	No issue related to backfilling or waste disposal.
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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 the previous year by 1st July.	PMCP report for the year 2022-23 has been submitted.	Nil.
6b	Area available for rehabilitation (ha) .	No proposal.	Not applicable.	Nil.
6c	afforestation done (ha).	Year 2022-23: 1.0 Hect virgin area and 2.0 hect area as gap filling plantation.	Year 2022-23: 1.0 Hect virgin area and 2.0 hect area as gap filling plantation.	1.0 hect Miyawaki Plantation (dense plantation technique) with 13750 saplings done during 22-23.
6d	No. of saplings planted during the year	Total 3000 number of saplings during the RY.	Total 16010 numbers of saplings planted during the RY.	1.0 hect Miyawaki Plantation (dense plantation technique) with 13750 saplings done during 22-23.
6e	Cumulative no .of plants	No specific proposal on cumulative number of plants.	203750 at the end of the RY 2022-23.	Nil.
6f	Any other method of rehabilitation	No any other proposal.	Not applicable.	Nil.
6g	Cost incurred on watch and care during the year	No proposal.	Approximately: Rs. 284.46 lacs.	Nil.

6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	2022-23: 6,66,667 m3	2022-23: 6,66,667 m3	Less backfilling due to less production.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	2022-23: 6,66,667 m3	2022-23: 4,63,415 m3	Less backfilling due to less production.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on backfilled area	Not applicable being an underground mine.	Not applicable.	Nil.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	Not applicable being an underground mine.	Not applicable.	Nil.
6l	Compliance on reclamation and rehabilitation by backfilling (v)any other specific means.	Not applicable being an underground mine.	Not applicable.	Nil.
6m	Compliance of rehabilitation of waste land within lease (i)afforestation	Total 3000 number of saplings during the RY.	Total 16010 numbers of saplings planted during the RY.	1.0 hect Miyawaki Plantation (dense plantation technique) with 13750 saplings done during 22-23.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Year 2022-23: 1.0 Hect virgin area and 2.0 hect area as gap filling plantation.	Year 2022-23: 1.0 Hect virgin area and 2.0 hect area as gap filling plantation.	1.0 hect Miyawaki Plantation (dense plantation technique) with 13750 saplings done during 22-23.
6o	Compliance of rehabilitation of waste land within lease (iii)Method of rehabilitation	Plantation	Plantation	Nil.

6p	Compliance of environmental monitoring (core zone and buffer zone)	Proposal of environment monitoring has been envisaged	Environment monitoring carried out regularly.	Nil.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Total 3000 number of saplings over 3.0 hect area during the RY.	Total 16010 numbers of saplings planted over 3.0 hect area during the RY.	The PMCP compliance is satisfactory.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	No proposal of grade wise sorting of ROM.	Entire ROM was transported/dispatched to beneficiation plant.	Nil.
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Beneficiation: Mechanical.	Beneficiation: Mechanical.	Nil.
7c	Different grade of mineral sorted out at mines.	No proposal.	Not applicable.	Nil.
7d	Any beneficiation process at mines .	1.1 MTPA beneficiation plant installed within lease area. The process includes mainly crushing and grinding of ROM , classification , differential flotation cells, concentrate thickeners, filters, tailing dewatering, & backfilling system.	Beneficiation of ROM was carried out at Dariba and SK beneficiation plant.	Nil.

7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	No proposal of grade wise sorting of ROM.	Entire ROM was transported/dispatched to beneficiation plant.	No issue related mineral conservation and beneficiation.
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Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal of top soil generation during the RY 2022-23.	No top soil generated during the RY 2022-23.	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)	No proposal of reject and fines generation. UG development waste was proposed to dispose in UG stopes.	Reject and fines was not generated during the RY. UG waste disposed as per proposal. Mill tailing disposed in tailing dam.	Nil.
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Waste rock and tailing proposed to use in filling of UG voids/stopes.	Waste rock and tailing used for filling UG voids/stopes.	Nil.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	Not applicable being an underground mine.	Not applicable.	Nil.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	Total 3000 number of saplings over 3.0 hect area during the RY.	Total 16010 numbers of saplings planted over 3.0 hect area during the RY.	1.0 hect Miyawaki Plantation (dense technique) with 13750 saplings done during 22-23.

8g	Survival rate	No proposal on survival rate.	Survival rate 85% for the RY.	Nil.
8h	Water sprinkling on roads to control airborne dust	To control the air born dust, water sprinkling has been proposed.	Water sprinkling has been observed on the roads to control airborne dust due to mining activity.	Nil.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Total 3000 number of saplings over 3.0 hect area during the RY.	Total 16010 numbers of saplings planted over 3.0 hect area during the RY.	The aesthetic beauty in and around the mine is satisfactory.

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, 2017 monthly and annual returns to be submitted.	Monthly and annual returns have been submitted for the RY.	Nil.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Mining Engineer- BharatKumar Geologist- Sandeep Kumar Rajput Manager- Bharat Kumar	Mining Engineer, Manager and Geologist are appointed.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	An area of 244.53 Hect has been furnished under various heads.	Area under mining has not shown as per approved MRMP.	Show-cause notice issued for violation of rule 45(7) of MCDR, 2017.
9d	Scrutiny of Annual return on afforestation	16010 no. of plants within lease and 4500 no. of plants outside lease.	Information furnished is found in order.	Nil.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mineral Reject generation: NIL	Found in order.	Nil.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM closing stock: 28980 MT and no graded ore.	The information furnished found in order.	Nil.

9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex-Mine price and cost of production: Rs 6462 per ton.	The information furnished appears to be in order.	Nil.
9h	Scrutiny of Annual return on fixed assets	Value of fixed asset furnished is Rs. 13078644253.00	The information furnished appears to be in order.	Nil.
9k	Scrutiny of Annual return on mining machineries	Winding machine, Air compressor, Ventilation Fan, Pumps, Crusher, Conveyor, Rock drill, Load Haul Dumper, Motor grader, LPDT etc.	Winding machine, Air compressor, Ventilation Fan, Pumps, Crusher, Conveyor, Rock drill, Load Haul Dumper, Motor grader, Dumper, LPDT etc.	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
MCDR17	Rule 11(1)	05-OCT-23			
MCDR17	Rule 45(7)(a)	05-OCT-23			

Date :

(DILIP JAIN)

Indian Bureau of Mines