

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

MCDR INSPECTION REPORT

Gandhinagar regional office

Mine file No : RAJ/UDP/LEAD-ZINC-4

Mine code : 34RAJ26005

- (i) Name of the Inspecting : **G021**) **DATA RAM GURJAR**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Shri Debanshu Chatterjee, Mine Manager & Sh. Sandeep
Official with
Designation
- (iv) Date of Inspection : 17-JAN-20
- (v) Prev.inspection date : 05-NOV-19

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **BAROI**
- (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 : **SARADA**
- Post office : **ZAWAR MINES**
- Pin Code :
- FAX No. : **0294-2726243**
- E-mail : **hzlm@datainfosys.net**
- Phone : **0294-2726611,2726612**
- (f) **Police Station** : **ZAWAR**
- (g) **First opening date** : **01-DEC-73**
- (h) **Weekly day of rest** : **MON**
2. **Address for** : **PO- ZAWAR**
correspondance **DISTT- UDAIPUR**
RAJASTHAN
3. (a) **Lease Number** : **RAJ1725**
- (b) **Lease area** : **816**
- (c) **Period of lease** :
- (d) **Date of Expiry** : **29-MAR-10**
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 : SUNIL DUGGAL
 YASHAD BHAWAN UDAIPUR
 UDAIPUR RAJASTHAN
 Phone: 0294-6604120
 FAX : 0294-6604120

Agent : Sri Vijay Prakash Joshi
 Baroi Pb-Zn Mine, Post-
 Zawar, District: Udaipur
 Rajasthan UDAIPUR RAJASTHAN
 Phone:
 FAX :

Mining Engineer

Name : Vinod Saini, Full Time
 Qualification : B.E. Mining
 Appointment/ : 04-OCT-18
 Termination date

Geologist

Name : Sri Somdeb Dutta Mal, Full Time
 Qualification : M.Sc. (Geology)
 Appointment/ : 31-JAN-19
 Termination date

Manager

Name : Sri Debanshu Chatterjee
 Qualification : B.E. Mining
 Appointment/ : 21-AUG-19
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	15-SEP-03
Plan/Scheme of Mining	:	Modif. approved Mining Scheme	16-AUG-05
	:	MP modif under 17(3) MCR 2016	17-MAY-19
	:	MP review under 17(1) MCR 2016	17-DEC-19

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	During the previous year i.e. 2017-18 a total of 230 BH have been proposed with 23000mts	During the year 2017-18 a total of 460 have been drilled with 31041 mts.	No Backlog was observed.
1b	Exploration over lease area for geological axis 1 or 2	During the reporting year 2018-19 a total of 300 BH have been proposed with 27000 mts.	A total of 422 BH have been drilled with 71315 mts.	Nil
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No specific proposal of exploration agency and expenditure.	Drilling has been carried out by AEC and HRREC and TDMA agencies with total expenditure of 972.65 lacs.	Nil
1d	Balance area to be explored to bring Geological axis in 1 or 2	No specific proposal/area has been mentioned under balance area to be explored to bring Geological axis in 1 or 2.	As per approved document dated 15/05/2019, an area of 45.49 yet to bring under G1/G2 level of exploration.	Nil
1e	Balance reserve as on 01/04/20	No specific proposal given in this regard.	The position of reserve as on 01/04/2019 is 2.667 million tonnes.	Nil
1f	General remarks of inspecting officers on geology, exploration etc			Exploration carried out is more than the proposal.

Development :

Sl.No.	Item	Proposals	Actual work	Remarks
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2a	Location of development w.r.t.lease area	A total of 10000 mts of development has been proposed at various levels during the year 2018-19	During the year a total of 12025 mts of development has been achieved.	Nil
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 mining operation.	Not applicable.	NIL.
2d	Quantity of topsoil generation in m3	No proposal of top soil generation during the year.	No top soil has been generated during the year.	NIL.
2e	Quantity of overburden generation in m3	A total of 211000 tonnes of waste has been proposed to generate through UG development.	A total of 456452 tonnes of waste has been generated.	Violation of MCDR issued vide office letter dated 03/12/2019 by the previous inspecting officer.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc			(1)The UG mechanised method has been adopted for carrying out mining operations in the lease area which is best suited to the type of deposit. (2)During the stoping inspection water & sludge was observed in haulage drive & cross cuts at 248mRL level hence violation of rule 11(1) of MCDR 2017 issued to the lessee vide letter dated 06/02/2020.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
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3a	Number of pit proposed for production	Not applicable as it is UG mine.	Not applicable.	NIL.
3b	Quantity of ROM mineral production proposed	2018-19: 1000000 tonnes.	2018-19: 999991 tonnes.	Nil
3c	Recovery of sailable/usable mineral from ROM production	1000000 tonnes.	999991 tonnes.	NIL.
3d	Quantity of mineral reject generation	No proposal of Mineral Reject generation.	Entire ROM is subject to beneficiation. A quantity of 934564 tonnes (mill tailing) has been considered as mineral reject.	NIL.
3e	Grade of mineral rejects generation and threshold value declared.	Not applicable as no proposal.	The grade of mill tailing reported was 1.01 % (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.	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 4.7 mtpa is already in place within lease area.	Beneficiation of ROM is being carried out as per proposal.	NIL.
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 has 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, LHD, Grader etc. has been proposed for mine development and stoping operation.	Deployment of Mining machinery has been found to be as per proposal in UG operations.	NIL.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not applicable being a UG mining operation.	Not applicable.	NIL.
3m	Total area covered under excavation/pits	Not applicable being a UG mining operation.	Not applicable.	NIL.
3n	Ore to OB ratio for the pit/mine during the year.	Not applicable being a UG mining operation.	Not applicable.	NIL.
3o	Total area put in use under different heads at the end of year	As per approved document dated 24/11/2016 for the period upto 2019-20, an area of 251.52 Ha has been proposed to use under different heads.	An area of 254.02 Ha . has been put in use at the end of the year 2018-19. Further, an area of 45.07 Ha. has been declared as reclaimed and rehabilitated.	As per approved document dated 17/05/2019, area proposed to put in use at the end of the plan period i.e. 2019-20 has been revised to 296.97 Ha.
3p	Production of ROM mineral during the last five year period as applicable	2019-20:1460000 T 2018-19:1000000T 2017-18:850000T 2016-17:600000T 2015-16:365000T 2014-15:425000T	2019-20:907125T(Upto Dec 2019) 2018-19:999991T 2017-18:714198T 2016-17:602000T 2015-16:402000T 2014-15:322900T	Nil
3q	General remarks of inspecting officers on method of mining etc.	Underground method of mining has been proposed.	The Method of mining is suitable to the type of deposit.	Nil

Solid Waste Management - Dumping:

Sl.No.	Item	Proposals	Actual work	Remarks
4a	Separate dumping of topsoil, OB and mineral rejects (Rule 32,33)	No proposal of top soil and Mineral Reject generation. OB/waste is proposed to dispose in UG stopes as well as for tailing dam construction.	Top soil and Mineral Reject has not been generated during the reporting year. Waste generated during the year has been dumped as per proposal.	Quantity of Mill tailing of 934564 MT of 1.01% (Pb+Zn) has been reported as Mineral reject.
4b	Location of topsoil, OB and mineral reject dumps	No proposal of top soil and Mineral Reject generation. OB/waste is proposed to dispose in UG stopes as well as for tailing dam construction.	Top soil and Mineral Reject has not been generated during the reporting year. Waste generated during the year has been dumped as per proposal.	Nil
4c	Number of dumps within lease area and outside of lease area	No proposal of waste dumping during the year 2018-19.	No waste dumping during the year 2018-19.	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.	No proposal.	Not applicable.	Nil
4i	Length of Retaining wall or garland drain all along dumps	No proposal.	None	Nil
4j	Number of settling ponds	No Proposal.	None	Nil
4k	Specific comments of inspecting officer on waste dump management			Waste disposal has been carried out as per approved proposal.

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 dumping in UG voids has been proposed.	Dumping of waste has been carried out in UG void stops.	Nil
5b	Area under backfilling of mined out area	No specific proposal of area. A quantity of 174000 MT has been proposed to dispose in UG stopes.	A quantity of 346365 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 top soil generation during reporting year.	No top soil has been generated during the year.	Nil
5d	Total area fully reclaimed and rehabilitated	No proposal of full reclamation and or rehabilitation	None	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 void mined out stops.	Nil

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. 2018-19 has been submitted on 20/06/2019.	Nil
6b	Area available for rehabilitation (ha) .	An area of 4.0 Ha of within lease area has been proposed for rehabilitation	75 Ha areas gap filling plantation (For Zawar lease area)	Nil
6c	afforestation done (ha).	An area of 4.0 Ha of within lease area has been proposed.	75 Ha areas gap filling plantation.	Nil

6d	No. of saplings planted during the year	4000 nos. within lease area.	25000 nos. saplings have been planted.	For overall Zawar group of mines.
6e	Cumulative no .of plants	Not specified	About 425625 nos. sapling planted up to year 2018-19.	Nil
6f	Any other method of rehabilitation	Other than plantation, no specific proposal of any other method of rehabilitation	Plantation has been carried out as per proposal.	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. 705422/-	For 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 174000 MT has been proposed to dispose in UG stopes.	A quantity of 346365 MT has been dispose in UG stopes.	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	A quantity of 174000 MT has been proposed to dispose in UG stopes.	A quantity of 346365 MT has been dispose in UG stopes.	Nil
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	Plantation of 4000 no of plants over 4.0 Ha rea.	Plantation of 25000 no of plants over 75.0 ha area gap filling plantation.	Figures for whole Zawar mine area.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	Plantation of 4000 no of plants over 4.0 Ha rea.	Plantation of 25000 no of plants over 75.0 ha area gap filling plantation.	Figures for whole Zawar mine area.
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)	Provision of environment monitoring stations has been given.	Environment monitoring pis being carried out.	Nil
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.			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 specific proposal of grade wise sorting.	Entire ROM ore is being transported to Ore beneficiation plant located within lease boundary.	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 .	4.7MTPA Beneficiation plant has been installed within the lease area. The process includes mainly crushing and grinding of ROM, Classification ,differential flotation cell etc.	Beneficiation has been observed as per proposal.	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			No issues related to mineral conservation and beneficiation was observed.

Environment :

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

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal of use of waste rock for restoring the land to its original use. However, waste rock is proposed to dispose in stopped out area.	U/G stopped out area has been utilized for waste dumping purpose.	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 4.0 Ha has been proposed for plantation with 4000 number of saplings.	During the year a total of 25000 thousand saplings have been planted over 75 ha area including gap filling plantation.	Nil
8g	Survival rate	No specific proposal of for survival rate.	80%	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 with water sprinklers on haul roads to control airborne dust due to mining activity.	Nil
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			The aesthetic beauty in and around the mine is good.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
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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 on time.	Nil
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Details are given	Found correct.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	A total of 254.52 Ha rea has been shown degraded under various activity like Road, plants, Buildings, Township etc. Further, an area of 45.07 ha. has been furnished under reclaimed and rehabilitated area.	The information furnished about land use pattern in annual return is found to correct.	The information furnished is for entire Zawar group of mines
9d	Scrutiny of Annual return on afforestation	Within ML 25000 Nos of saplings.	Information furnished appears to be corrected.	For overall Zawar group of mines.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Quantity- 934564 MT Grade- 1.01 % (Pb+Zn)	The quantity of Mineral Reject furnished is actually a quantity of mill tailing.	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM Closing stock at Mine head- NIL. concentrates closing stock at Mill: 1096.228 MT	The information furnished is found to be correct.	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	No sale of mineral only captive use of mineral. Ex. Mine Price & Production cost is 2637.46/- per tonne	Violation of rule 45(7) of MCDR 2017 issued fby previous inspecting officer vide letter dated 23/09/2019 regarding estimation of cost of production.	Nil

9h	Scrutiny of Annual return on fixed assets	Value of fixed asset furnished is NIL.	Information is furnished under Mochia Mine annaual return.	Nil
9k	Scrutiny of Annual return on mining machineries	Rock Drill, Blast Hole Drill. LPDT, LHD, Air Compressor, Pumps, Ventilation fan etc.	The information furnished on mining machineries appears to be in order.	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)	06-FEB-20				
MCDR17 Rule 46(a)	06-FEB-20				

Date :

(DATA RAM GURJAR)

Indian Bureau of Mines