

**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 : Sri Rahul Bose, Mine Manager and Sri Prasant Biswas,
Official with
Designation
- (iv) Date of Inspection : 26-OCT-20
- (v) Prev.inspection date : 07-NOV-19

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 : SRI SANDEEP NARADE
Zawar Mines, Udaipur
rajasthan UDAIPUR
RAJASTHAN
Phone: 97993 97755
FAX : 0294-423430

Mining Engineer

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

Geologist

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

Manager

Name : Shri Rahul Bose
Qualification : BE Mining
Appointment/ : 02-JUL-19
Termination date

6. Date of approval of Mining	:	PMCP under 23B(1) for Renewal	21-AUG-09
Plan/Scheme of Mining		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. 2018-19 a total of 4000mts of drilling proposed from UG and 3000 mts from surface exploration.	During the year 2018-19 a total of 8375 mts. of drilling carried out from UG and 3159 mts from surface exploration.	No Backlog.
1b	Exploration over lease area for geological axis 1 or 2	A total of 105 BHs with 16000 mts of drilling was proposed.	A total of 83 BHs with 15669 mts of drilling was carried out.	Violation of Rule 11(1) of MCDR, 2017 pointed out vide letter dated 12/11/2020.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Agency: M/s Hindustan Zinc Limited. No specific proposal about expenditure.	Agency: M/s Hindustan Zinc Limited. Expenditure was around RS. 53620388.	Expenditure figures are as reported during mine inspection.
1d	Balance area to be explored to bring Geological axis in 1 or 2	An area of 0.050 Ha (G1) and 0.03 Ha. (G3) was proposed to explore.	An area of 0.90 ha. explored under G1 level of exploration.	As reported during mine inspection.
1e	Balance reserve as on 01/04/20	As per approved document dated 17/12/2019, the position of reserve on 01/04/2019 was 4.004 million tonnes.	The position of reserve as on 01/04/2020 was 3.57 million tonnes.	Depletion of 435925 tonnes ore.
1f	General remarks of inspecting officers on geology, exploration etc	A total of 105 BHs with 16000 mts of drilling was proposed.	A total of 83 BHs with 15669 mts of drilling was carried out. Violation of Rule 11(1) of MCDR, 2017 pointed out vide letter dated 12/11/2020.	Deviation in exploration work has been observed and violation of MCDR issued. Resource of 0.865 million tonnes to (area 1.53 Hect. on LVS) yet to convert in reserve.

Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Development has been proposed for Central Zone lens at various mRL. A total of 3800 mts of development was proposed.	Development has been carried out in central Zone lens. During the year, total development of 2907.81 mts has been carried out.	Less development due to equipment delay.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable as mining operations was proposed through UG Mining Method.	Not applicable.	NIL.
2c	Stripping ratio or ore to OB ratio	Not applicable as mining operations was proposed through UG Mining Method.	Not applicable.	NIL.
2d	Quantity of topsoil generation in m3	No proposal of top soil generation during the year.	Top soil has not been generated during the RY i.e. 2019-20.	NIL.
2e	Quantity of overburden generation in m3	A total of 80000 MT of waste has been proposed to generate through UG development.	A total of 59847 MT of waste has been generated.	NIL.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Development has been proposed through UG mining operation.	The UG mechanised method has been adopted for carrying out mining operations is best suited to the type of deposit	No issue related to method of development.

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	580000.00 tonnes.	435925.00 tonnes.	Less production in account of less development.

3c	Recovery of sailable/usable mineral from ROM production	580000.00 tonnes.	435925.00 tonnes.	Less production in account of less development.
3d	Quantity of mineral reject generation	No proposal of Mineral Reject generation.	Entire ROM is subject to beneficiation.	A quantity of 407478.00 tonnes (mill tailing) has been reported as mineral reject.
3e	Grade of mineral rejects generation and threshold value declared.	Not applicable as no proposal.	0.68% (Pb+Zn) (as per annual return)	Mill tailing has been reported as mineral reject.
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 was 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.	Beneficiation of ROM is being carried out as per proposal.	Beneficiation facility of 4.7 mtpa is already in place within lease boundary.
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	Not applicable being an underground mine.	Not applicable.	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	No specific mine wise proposal. However, an area of 296.97 Ha. has been proposed to put in use at the end of reporting year.	An area of 254.52 Ha. has been put in use at the end of the year 2019-20. Further, an area of 45.07 Ha. has been declared as reclaimed and rehabilitated.	Figures are for entire Zawar Lease area.
3p	Production of ROM mineral during the last five year period as applicable	2015-16: 250000 2016-17: 320000 2017-18: 325000 2018-19: 300000 2019-20: 580000	2015-16: 326200 2016-17: 338400 2017-18: 365453 2018-19: 299995 2019-20: 435925	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.	No issue observed related method of mining.

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. OB/waste is proposed to dispose in UG stopes.	Top soil has not been generated during the reporting year. Waste generated during the year has been dumped as per proposal. Mill tailing of 407478 MT has been reported as Mineral reject.	Mill tailing 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.	Top soil was not generated during the reporting year. Waste generated during the year has been dumped as per proposal. Mill tailing was disposed in tailing dam.	Mill tailing has been reported as Mineral reject.
4c	Number of dumps within lease area and outside of lease area	No proposal of waste dumping within Mine boundary.	No waste dumping within Zawarmala Mine boundary.	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.	No proposal of active and alive waste dumping.	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 on surface.	Not applicable.	NIL.
4i	Length of Retaining wall or garland drain all along dumps	No proposal of retaining wall and garland drain.	Not applicable.	NIL.
4j	Number of settling ponds	No proposal of settling ponds.	Not applicable.	NIL.
4k	Specific comments of inspecting officer on waste dump management	OB/waste was proposed to dispose in UG stopes.	Waste generated during the year was dumped as per proposal.	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 in stope waste dumping after full extraction of mineral was proposed.	In stope waste dumping was observed after full extraction of mineral for the year 2019-20.	NIL.
5b	Area under backfilling of mined out area	No specific proposal on area of backfilling. A quantity of 80000 MT of waste was proposed to dispose in UG stopes.	Waste quantity of 59847 MT has been dispose in UG stopes.	Less disposal of waste in stope in account of less development due to equipment delay.
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 during reporting year.	Not applicable.	NIL.
5e	General remarks of inspecting officers on backfilling and reclamation etc.	Backfilling or in stope waste dumping after full extraction of mineral was proposed.	In stope waste dumping was observed after full extraction of mineral for the year 2019-20.	No issue related to backfilling or waste disposal.

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 the year i.e. 2019-20 was not submitted.	Violation of rule 26(2) pointed out vide letter dated 12/11/2020.
6b	Area available for rehabilitation (ha) .	4.0 Ha. of waste land.	4.0 Ha. area.	For overall Zawar Lease area. No mine specific proposal.
6c	afforestation done (ha).	4.0 Ha. of waste land.	4.0 Ha. area.	Figures are for entire Zawar Lease area. No mine specific proposal.
6d	No. of saplings planted during the year	4000 number of saplings.	9000 number of saplings.	Figures are for entire Zawar Lease area. No mine specific proposal.
6e	Cumulative no .of plants	No specific proposal on cumulative number of plants.	Cumulatively 434625 number of saplings were planted as on 01/04/2020.	Figures are for entire Zawar Lease area.
6f	Any other method of rehabilitation	Other than plantation, no specific proposal of any other method of rehabilitation	No other method of rehabilitation was observed.	NIL.

6g	Cost incurred on watch and care during the year	No proposal on cost of watch and care during the year.	As reported, approximately Rs. 52087469/-	Figures are for entire Zawar Lease area.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (L x B x D	Underground exhausted stopes.	Underground exhausted stopes were backfilled.	NIL.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	80000 MT	59847 MT	Less disposal of waste in stope in account of less development.
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.	No any other specific proposal.	Not applicable.	NIL.
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	4000 number of saplings.	9000 number of saplings.	NIL.
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	4.0 Ha.	4.0 Ha.	NIL.

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 was carried out and found within permissible limit.	NIL.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	Plantation of 4000 no of plants over 4.0 Ha. area.	Plantation of 9000 no of plants over 4.0 ha area.	PMCP implementation was 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 of ROM. Entire ROM proposed to dispatch for beneficiation.	Entire ROM ore is being transported/dispatched 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 of ROM was observed.	NIL
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	4.7MTPA Beneficiation plant has been installed within the lease area.	Beneficiation of ROM is being carried out.	No issues related to mineral conservation and beneficiation.

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 of top soil generation.	Top soil has not been generated during the RY i.e. 2019-20.	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. Mill tailing was disposed in tailing pond as per proposal.	NIL.

8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	Waste rock is proposed to dispose in stopped out area.	U/G stoped out area has been utilized for waste dumping/backfilling 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 9000 thousand saplings have been planted over 4.0 ha area including gap filling plantation.	NIL.
8g	Survival rate	No specific proposal on survival rate.	Survival rate was 75 %.	As per AR 2019-20.
8h	Water sprinkling on roads to control airborne dust	To control the air born dust particle, water sprinkling has been proposed on the roads.	Water sprinkling has been observed 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	Plantation of 4000 no of plants over 4.0 Ha. area.	Plantation of 9000 no of plants over 4.0 ha area.	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, monthly and annual returns to be submitted.	Monthly and annual returns have been submitted for reporting year.	NIL.

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Information on Mining Engineer, Manager and geologist was furnished.	Mine Manger, Mining engineer and Geologist are appointed.	Scrutiny of AR 2019-20.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Ana area of 299.59 Ha. has been furnished under different heads.	The information furnished about land use pattern in annual return is found to correct. However, work done under PMCP during year was not furnished.	Violation pointed out vide letter dated 12/11/2020. Information furnished was for overall Zawar lease area.
9d	Scrutiny of Annual return on afforestation	Within ML 9000 Nos of saplings.	Information furnished was found correct.	Figures are for entire Zavar Lease area.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Quantity- 407478 MT Grade- 0.68 % (Pb+Zn)	The quantity of Mineral Reject furnished was 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. No graded ore stock.	The information furnished is found in order.	NIL.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex. Mine Price: Rs. 3485.26 per tonne Cost of Production: Rs. 3485.26 per tonne	No sale of mineral only captive use of mineral. Being an captive mine Cost of production and Ex-mine should be same. the details are found in order.	NIL.
9h	Scrutiny of Annual return on fixed assets	Value of fixed asset is furnished as Rs. 0.	Information is furnished under Mochia Mine.	Violation of MCDR issued vide letter dated 12/11/2020.
9k	Scrutiny of Annual return on mining machineries	Crusher, Load Haul Dumper, Dumper, Rock Drill, Blast Hole Drill, 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)	12-NOV-20	25-JAN-21	MCDR17	Rule 45(7)	12-NOV-20 02-MAR-21
MCDR17	Rule 26(2)	12-NOV-20	25-JAN-21			
MCDR17	Rule 35(2)	12-NOV-20	25-JAN-21			
MCDR17	Rule 45(7)(a)	12-NOV-20				

Date :

(DILIP JAIN)

Indian Bureau of Mines