

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

MCDR INSPECTION REPORT

Gandhinagar regional office

Mine file No : RAJ/RJS/LZ-1

Mine code : 34RAJ27002

- (i) Name of the Inspecting : **DJ03**) **DILIP JAIN**
Officer and ID No.
- (ii) Designation : Senior Mining Geologist
- (iii) Accompanying mine : Sh. Vinod Jangir, Agent
Official with
Designation
- (iv) Date of Inspection : 24-FEB-21
- (v) Prev.inspection date : 15-DEC-20

PART-I : GENERAL INFORMATION

1. (a) **Mine Name** : **SINDESAR KHURD**
- (b) **Registration NO.** : **IBM/421/2011**
- (c) Category : A Mechanised
- (d) Type of Working : Underground
- (e) Postal address
- State : RAJASTHAN
- District : RAJSAMAND
- Village : SINDSAR KHURD
- Taluka : RAIL MAGRA
- Post office : DARIBA
- Pin Code : 313211
- FAX No. : 02952-265143
- E-mail : sunil.duggal@vedanta.co.in
- Phone : 02952-265275
- (f) Police Station : Dariba
- (g) First opening date : 09-AUG-00
- (h) Weekly day of rest : SUN
2. Address for : RAJSAMAND
correspondance Tehsil - Railmagra
Rajasthan
3. (a) Lease Number : RAJ1749
- (b) Lease area : 199.84
- (c) Period of lease : 50
- (d) Date of Expiry : 19-MAR-49
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 : Vinod Jangir
 Sindesar Khurd Mine Distt.
 Rajsamand Rajasthan-313211
 RAJSAMAND RAJASTHAN
 Phone: 7742842411
 FAX : (02952) 265143

Mining Engineer

Name : Dushyant Tailor, Full Time
 Qualification : BE(Mining) & FCC(U/R)
 Appointment/ : 12-JUL-18
 Termination date

Geologist

Name : Shri Pankaj Kumar, Full Time
 Qualification : M.Sc. (Applied Geology)
 Appointment/ : 15-OCT-19
 Termination date

Manager

Name : RADHA RAMAN
 Qualification : B E Mining
 Appointment/ : 02-JUL-19 30-MAY-21
 Termination date

Manager

Name : Anshul Kumar Khandelwal
 Qualification : BE (Mining Engg)
 Appointment/ : 31-MAY-21
 Termination date

6. Date of approval of Mining	:	Mining Scheme rule 12 MCDR1988	10-JUL-02
Plan/Scheme of Mining	:	Mining Scheme rule 12 MCDR1988	27-JUL-06
	:	Modif.of approved Mining Plan	29-JAN-09
	:	Mining Scheme rule 12 MCDR1988	23-JUL-13
	:	MP modif under 17(3) MCR 2016	01-DEC-17
	:	MP modif under 17(3) MCR 2016	01-AUG-19
	:	MP modif under 17(3) MCR 2016	09-JUL-20

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Total of 105000 mts of drilling from surface and UG.	Total of 111824 mts of drilling from surface and UG.	Year 2018-19:
1b	Exploration over lease area for geological axis 1 or 2	Year 2019-20: UG=85000m (Nos. of BH-800) Surface=10000 m(Nos. of BH-14)	Year 2019-20: UG=85555m(No of BH-601) Surface= 16371m (No of BH-19)	Shortfall observed in nos. of bore holes in UG. Violation of Rule 11(1) of MCDR 2017 issued vide letter dated 13.01.2021 by previous inspecting officer.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	No specific proposal of exploration agency and expenditure for the year 2019-20.	2019-20: Hindustan Zinc Limited & Hardrock Rohita Engineering Co. Expenditure- Rs 249265858/-Surface Exploration TDMA Expenditure Rs.125364042/-	NIL.
1d	Balance area to be explored to bring Geological axis in 1 or 2	As per approved mining plan entire potentially mineralised area explored under G1/G2 level of exploration. Drilling has been proposed to upgrade the resource and for in-depth exploration.	Exploratory drilling has been carried out to upgrade resource and to explore ore body in-depth.	NIL.
1e	Balance reserve as on 01/04/20	As per approved MMP dated 09/7/2020, the position of reserve and resource was 37.34 and 79.07 million tonnes respectively.	As on 01/04/2020, the position of reserve and resources are 37.34 and 79.07 million tonnes respectively.	NIL.

1f	General remarks of inspecting officers on geology, exploration etc	UG=85000m (Nos. of BH-800) Surface=10000 m(Nos. of BH-14)	UG=85555m(No of BH-601), Surface= 16371m (No of BH-19) Shortfall observed in nos. of bore holes in UG. Violation of Rule 11(1) of MCDR 2017 issued.	Latest technologies like directional drilling and core orientation etc are in practice for faster mineral exploration.
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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 for Ramp, 425-315mRL, 290-160mRL, 130 - (-)55mRL, -90 - (-)150mRL, -185-(-)245mRL, -280 - 355mRL, -395mRL & below, SKA2, SKA6 and Vertical Development. Total of 34004 mts of development was proposed.	Development has been carried out at Ramp, 425-315mRL, 290-160mRL, 130 - (-)55mRL, -90 - (-)150mRL, -185-(-)245mRL, -280 - 355mRL, -395mRL & below, SKA2, SKA6 and Vertical Development. Total of 19869 mts of development was carried out.	Violation of rule 11(1) of MCDR, 2017 issued for less development vide letter dated 13/01/2021 by previous inspecting officer.
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 1714386 MT of waste has been proposed to generate through UG development.	A total of 1040399 MT of waste has been generated. Out of total waste generation, an quantity of 460787 tonnes has been dumped to surface waste dump and an quantity of 579612 tonnes of waste was dumped in voids created by stoping.	Less waste generation in account of less development.
2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Mine development has been proposed through UG mining Method.	Development is being carried out through UG Mining Method.	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.

Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	No proposal being an underground mine.	Not applicable being an underground mine.	NIL.
3b	Quantity of ROM mineral production proposed	6000000 MT	5077640 MT	Less production due to delay in development and backfilling of mined out stopes.
3c	Recovery of sailable/usable mineral from ROM production	6000000 MT	5077640 MT	Less production due to delay in development and backfilling of mined out stopes.
3d	Quantity of mineral reject generation	No proposal of Mineral Reject generation.	Entire ROM is subject to beneficiation. However, mill tailing quantity of 4714892 T having grade of 0.35% TMC (Pb+Zn) generated.	NIL.
3e	Grade of mineral rejects generation and threshold value declared.	No Proposal. No threshold has been declared by IBM.	Mill tailing quantity of 4714892 T having grade of 0.36% TMC (Pb+Zn).	NIL.
3f	Quantity of sub grade mineral generation.	No proposal of Sub-grade ore generation.	No Sub-grade ore generated.	NIL.

3g	Grade of sub grade mineral generation	No proposal of Sub-grade ore generation.	Not applicable.	NIL.
3h	Manual / Mechanised method adopted for segregating from ROM	No specific proposal of segregation of ROM. Entire ROM is subject to the 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.	Beneficiation of ROM is being carried out as per proposal.	Beneficiation facility of 6.50 mtpa is already in place within lease boundary.
3j	Provision of drilling and blasting in mineral benches	Not applicable being an underground mine. Under Ground - Drilling pattern in ore- Burn Cut method of development, Drilling pattern in Stopes- Ring/parallel holes drilling proposed.	The drilling and blasting is being carried out as per proposal in UG.	NIL.
3k	Provision of mining machineries in mineral benches	Proposal for UG mining machinery: LHD, LPDT, Dumper, Explosive Van, Rock Drill, Blast Hole Drill, Water Tanker etc.	LHD, LPDT, Dumper, Explosive Van, Rock Drill, Blast Hole Drill, Water Tanker etc.	NIL.
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	No proposals as operations are proposed through underground mining method.	Not applicable as operations are being carried out through UG mining Method.	NIL>
3m	Total area covered under excavation/pits	No proposal.	UG mine, hence not applicable.	NIL.

3n	Ore to OB ratio for the pit/mine during the year.	No proposal being an underground mine.	Not applicable being an underground mine.	NIL.
3o	Total area put in use under different heads at the end of year	As per approved MMP dated 09/07/2020, total area put under different heads at the end of the plan period i.e. 2022-23 is 121.89Ha.	Total area put in use at the end of the year 2019-20 was 93.10 Ha.	As per AR 2019-20.
3p	Production of ROM mineral during the last five year period as applicable	2015-16- 2.5 mt 2016-17- 4.5 mt 2017-18- 4.5 mt 2018-19- 6.0 mt 2019-20-6.0 mt (mT-million tonnes)	2015-16-2.96 mt 2016-17- 3.66 mt 2017-18- 4.50 mt 2018-19- 5.31 mt 2019-20-5.077mt	(mt-million tonnes)
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.	The mine had been developed by UG method which is best suited 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 voids and existing waste dump.	Top soil and Mineral Reject has not been generated during the reporting year. Waste generated from UG mine development has been dumped as per proposal.	NIL.

4b	Location of topsoil, OB and mineral reject dumps	Top soil- No proposal OB- No proposal Waste dumping- E/W 1296-1502 & N/S 7134-7490	Top soil- Not generated OB- Not generated. Waste dumping-E/W 1296-1502 & N/S 7134-7490	NIL.
4c	Number of dumps within lease area and outside of lease area	01 within lease area	01 within 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.	Garland drain & retaining wall was proposed.	Garland drain & retaining wall observed at necessary places along waste dump.	NIL.
4i	Length of Retaining wall or garland drain all along dumps	During the year 2019-20, total 700m parapet wall & 700m garland drain proposed	During the year 2019-20, total 200m parapet wall & 200m garland drain made	Violation of rule 11(1) of MCDR, 2017 issued for less development vide letter dated 13/01/2021 by previous inspecting officer.
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 voids and existing waste dump.	Waste generated from UG mine development has been dumped as per proposal.	Deviation in construction of parapet wall & garland has been observed and violation of Rule 11(1) of MCDR 2017 issued by previous inspecting officer.

Solid Waste Management - Backfilling:

Sl.No.	Item	Propasals	Actual work	Remarks
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5a	Status of part or full extraction of mineral from mined out area before starting backfilling.	Backfilling of UG stopes proposed after full extraction of minerals.	Underground stopes were back filled after full extraction of minerals.	NIL.
5b	Area under backfilling of mined out area	No specific proposal on area of backfilling. A quantity of 1862000 CuM of waste/tailing was proposed to dispose in UG stopes.	Total of 1634921 CuM waste and tailing has been used for backfilling.	Less disposal was in account of less generation of waste.
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	An area of 3.0 ha has been proposed to rehabilitate by the way of plantation.	Around 3.0 Ha areas has been rehabilitate by the way of plantation within lease area.	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.	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 of MCDR, 2017 holder of mining lease shall submit PMCP before 1st day of July every year for the previous financial year.	PMCP report for the year 2019-20 has not been submitted after due date on issuing violation of MCDR by previous inspecting officer.	Violation of Rule 26(2) of MCDR 2017 issued vide letter dated 13.01.2021 by previous inspecting officer.

6b	Area available for rehabilitation (ha) .	No proposal of rehabilitation .	Not applicable.	NIL.
6c	afforestation done (ha).	3.0 ha area was proposed for afforestation.	Afforestation has been carried out over 3.0 ha area.	NIL.
6d	No. of saplings planted during the year	3000 number of saplings were proposed.	During the reporting year 3000 number of plant has been planted.	NIL.
6e	Cumulative no .of plants	No specific proposal on cumulative number of plants.	76000 (as informed during mine inspection).	NIL.
6f	Any other method of rehabilitation	No any other specific proposal for rehabilitation .	Not applicable as no proposal.	NIL.
6g	Cost incurred on watch and care during the year	Not specified.	Rs-3083826 (as informed during mine inspection)	NIL.
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	2045000 cum	1586762 cum	The total void backfilled was more than the void created during the year 2019-20 was due to availability of previous year void.
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	A quantity of 1862000 CuM of waste/tailing was proposed to dispose in UG stopes.	Total of 1634921 CuM waste and tailing has been used for backfilling.	NIL.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation on on backfilled area	No proposal.	Not applicable as no proposal.	NIL.
6k	Compliance on reclamation and rehabilitation by backfilling (iv) Rehabilitation by making water reservoir	No proposal.	Not applicable being an underground mine.	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	3 hect.	3 hect.	NIL.
6n	Compliance of rehabilitation of waste land within lease (ii)Area rehabilitation (ha)	3 hect. by plantation.	3 hect. by plantation.	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)	Provision of environment monitoring stations given in the Core and Buffer zone.	Environment monitoring is being carried out.	NIL.
6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	A total of 3000 number sapling has been proposed to plant.	A total of 3000 number of saplings has been planted within lease area.	Report on PMCP has not been submitted in due time for which violation of rule 26(2) of MCDR, 2017 was issued by previous inspecting officer.

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.	No proposal of grade wise sorting.	Not applicable as no proposal.	NIL.
7c	Different grade of mineral sorted out at mines.	Not applicable as no proposal.	Not applicable as no proposal.	NIL.
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues	6.5 MTPA 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 due to underground mining operation.	No top soil was generated.	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. Waste has been proposed to dispose in UG voids as well as dumping on existing waste dump.	Reject and fines has not been generated during the year. Waste and Mill tailing were 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 overburden/ waste rock for restoring the land to its original use. However, waste has been proposed to use in backfilling of stoped out area.	Waste generated during the year has been dumped partially over designated dump and partially disposed of in underground stoped out area.	NIL.
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No such proposal given.	Not applicable as no proposal.	NIL.
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	During the year 3000 number saplings have been proposed to plant over an area 3.0 hect. area.	A total of 3000 number of saplings were planted over an area 3 hect. area.	NIL.
8g	Survival rate	No specific proposal on survival rate.	82 %	As per AR 2019-20.
8h	Water sprinkling on roads to control airborne dust	To control the air born dust particle, water sprinkling proposed.	Water sprinkling observed during the mine inspection.	NIL.
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area	Plantation of 3000 no of plants over 3.0 Ha. area.	A total of 3000 number of saplings were planted over an area 3 hect. area.	The aesthetic beauty in and around mine was maintained.

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, holder of mining lease should submit Monthly and Annual returns.	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 of Mining Engineer, Geologist and Manager has been furnished.	Mine Manger, Mining engineer and Geologist are appointed.	NIL.
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Used for waste disposal-6.09 ha, Occupied by plant, building, workshop, roads, plantation-57.41 ha, Reclaimed/Rehabilitated-7.11 ha, Other-22.50 Ha.	The information furnished on land use pattern in annual return is found to correct.	NIL.
9d	Scrutiny of Annual return on afforestation	Information of plantation of 3000 number of saplings has been furnished.	Found in order.	NIL.
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mill tailing quantity of 4714892 MT having grade of 0.35% TMC (Pb+Zn) has been furnished as mineral reject.	No mineral reject has been generated during mineral excavation. Mill tailing has been furnished as Mineral reject.	NIL.
9f	Scrutiny of Annual return on ROM stock and/or graded ore	ROM closing stock: 685 tonnes, Closing stock of concentrate: Pb- 915.937, Zn- 2128.516	The information furnished found in order.	NIL.
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Ex mine price & Production cost per tonne- Rs.Rs. 2276.00	Appears in order.	NIL.

9h	Scrutiny of Annual return on fixed assets	Fixed Asset: Rs. 34264232777.00	The information furnished appears to be correct.	NIL.
9k	Scrutiny of Annual return on mining machineries	LHD, LPDT, Dumper, Explosive Van, Rock Drill, Blast Hole Drill, Water Tanker, Pumps, Air Compressor, Ventilation Fan etc.	The information furnished in respect of mining machineries appears to be correct.	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