

**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 : **G021**) **DATA RAM GURJAR**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Sh. Dushyant Tailor, Mining Engineer & Pankaj Choudha
Official with
Designation
- (iv) Date of Inspection : 02-DEC-21
- (v) Prev.inspection date : 08-JUL-21

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	No backlog of previous year 2019-20.	Not applicable	Nil
1b	Exploration over lease area for geological axis 1 or 2	2020-21: UG Drilling - 85000m(No of BH-800 no's) Surface Drilling :10000m (No of BH-10)	2020-21: UG Drilling -58048m(No of BH-414 no's) Surface Drilling : 18583m (No of BH-33)	For shortfall in underground exploration drilling during the year 2020-21, violation of Rule 11(1) of MCDR 2017 issued vide letter dated 03.08.2021 during the previous inspection.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	Not specified	Year 2020-21: Agency- Hindustan Zinc Limited, Expenditures- Underground exploration Expenditure Rs 62795225/- Surface Exploration Expenditure Rs.81491494/-	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	Not specified	Balance reserves as on 01.04.2021 Reserve-32.52 million tonnes, Resource-79.07 million tonnes, Total R&R- 111.57 million tonnes,	Nil

1f	General remarks of inspecting officers on geology, exploration etc	For shortfall in underground exploration drilling during the year 2020-21, violation of Rule 11(1) of MCDR 2017 issued vide letter dated 03.08.2021 during the previous inspection.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	Underground Mine Development was proposed for Ramp, 425-315mRL, 290-160mRL, 130 - (-)55mRL, -90-60mRL,SKA04,-395 & below,SKA2, SKA6 and Vertical Development. Total of 31889m mine development was proposed during the year 2020-21.	Underground Mine Development has been carried out for Ramp, 425-315mRL, 290-160mRL, 130 - (-)55mRL, -90 - (-)360mRL,SKA04, -395 & below, SKA2, SKA6 and Vertical Development. Total of 22012m mine development was achieved during the year.	During the previous inspection violation of rule 11(1) of MCDR, 2017 issued vide letter dated 03.08.2021 for less development from proposal.
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. 2020-21.	Nil

2e	Quantity of overburden generation in m3	A total of 1775186 MT of waste has been proposed to generate through UG development.	A total of 1196371 MT of waste has been generated. Out of total waste generation, an quantity of 552091 MT has been dumped to surface waste dump and an quantity of 644280 MT of waste was dumped in voids created by stoping.	Nil
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.	During the previous inspection violation of rule 11(1) of MCDR, 2017 issued vide letter dated 03.08.2021 for less development from proposal.

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	2020-21: 6000000 MT	2020-21: 4842247 MT	Nil
3c	Recovery of sailable/usable mineral from ROM production	2020-21: 6000000 MT	2020-21: 4842247 MT	Nil
3d	Quantity of mineral reject generation	No proposal of Mineral Reject generation. However during the year 2020-21 total 5400321 tons mill tailing generation proposed.	Entire ROM is subject to beneficiation. However, mill tailing quantity of 4562728 T having grade of 0.31% 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 4562728 T having grade of 0.31% TMC (Pb+Zn) generated during the year 2020-21.	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 2020-21 was 98.93 Ha.	As per AR 2020-21.
3p	Production of ROM mineral during the last five year period as applicable	2016-17- 4.5 mt 2017-18- 4.5 mt 2018-19- 6.0 mt 2019-20-6.0 mt 2020-21-6.0 mt	2016-17- 3.66 mt 2017-18- 4.50 mt 2018-19- 5.31 mt 2019-20-5.077mt 2020-21-4.84mt	mt- Million Tonnes
3q	General remarks of inspecting officers on method of mining etc.			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 however as per proposal not made during the year.	Nil
4i	Length of Retaining wall or garland drain all along dumps	200 retaining wall & 200m Garland drain	None during the year.	For retaining wall & garland drain violation of Rule 11(1) of MCDR 2017 issued vide letter dated 03.08.2021 during the previous inspection.
4j	Number of settling ponds	No proposal.	Not applicable.	NIL.
4k	Specific comments of inspecting officer on waste dump management			For retaining wall & garland drain violation of Rule 11(1) of MCDR 2017 issued vide letter dated 03.08.2021 during the previous inspection.

Solid Waste Management - Backfilling:

Sl.No.	Item	Proposals	Actual work	Remarks
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. Total 1862000cum U/G voids will be filled during the year.	During the year total 1995327cum underground voids filled by paste filling.	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	An area of 3.0ha 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 and in stope waste dumping was observed after full extraction of mineral.

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 2020-21 submitted on time.	Some discrepancies observed in submitted PMCP report for the year 2020-21, hence Violation of Rule 26(2) of MCDR 2017 issued vide letter dated 03.08.2021 during the previous inspection. After that lessee submitted revised corrected PMCP report for the year 2020-21.

6b	Area available for rehabilitation (ha) .	3.0 ha area was proposed for afforestation.	Afforestation has been carried out over 3.0 ha area.	Nil
6c	afforestation done (ha).	3 hect.	3 hect.	Nil
6d	No. of saplings planted during the year	3000 nos.	4500 nos.	Nil
6e	Cumulative no .of plants	No specific proposal on cumulative number of plants.	80500 nos. up to year 2020-21.	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. 4350356 (as informed during mine inspection)	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	1726250 cum	1729374 cum	Nil
6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	1805000 cum	1995327 cum	The total void backfilled was more than the void created during the year 2020-21 was due to availability of previous year void.
6j	Compliance on reclamation and rehabilitation by backfilling (iii)Afforestation 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.			Some discrepancies observed in submitted PMCP report for the year 2020-21, hence Violation of Rule 26(2) of MCDR 2017 issued vide letter dated 03.08.2021 during the previous inspection. After that lessee submitted revised corrected PMCP report for the year 2020-21.

Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
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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 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.
7d	Any beneficiation process at mines .	6.5 MTPA Beneficiation plant has been installed within the lease area.	Beneficiation of ROM is being carried out.	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			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 3.0hect. area.	A total of 4500 number of saplings were planted over an area 3 hect. area including gap filling of existing plantation.	Nil
8g	Survival rate	No specific proposal on survival rate.	90 %	As per AR 2020-21.
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	The aesthetic beauty in and around mine was maintained.
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Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	M.R Submitted up to November 2021 A.R. Submitted for the year 2020-21.	Timely submission	During the previous inspection some discrepancies observed in AR 2020-21, hence violation of Rule 45(7) of MCDR 2017 issued vide letter dated 03.08.2021. After that lessee submitted revised corrected return for the year 2020-21.
9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Shri Dushyant Tailor, Mining Engineer, Shri Pankaj Choudhary, Geologist, Shri Anshul Kumar Khandelwal, Mine Manager	Details are correct.	Nil
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Used for waste disposal- 6.09ha Occupied by plant, building, workshop, roads, plantation- 55.06 ha Other-30.7 Ha etc.Reclaimed/ Rehabilitated- 7.11 ha Total- 98.96 Ha	The information furnished on land use pattern in annual return is found to correct.	NIL.
9d	Scrutiny of Annual return on afforestation	4500 Nos of saplings planted during 2020-21 within lease area.	Found in order.	NIL.

9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	Mill tailing quantity of 4562728 tonnes having grade of 0.31% 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- 1328 tonnes, Zn- 10039 tonnes.	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. 2444	Appears in order.	During the previous inspection some discrepancies observed in AR 2020-21 related to cost of production per ton of ore, hence violation of Rule 45(7) of MCDR 2017 issued vide letter dated 03.08.2021. After that lessee submitted revised corrected return for the year 2020-21.
9h	Scrutiny of Annual return on fixed assets	Fixed Asset Rs. 3762.21 crores	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 :

(DATA RAM GURJAR)

Indian Bureau of Mines