

**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 : **G021**) **DATA RAM GURJAR**
Officer and ID No.
- (ii) Designation : Sr. Asst. Contrl. Mines
- (iii) Accompanying mine : Sh. Pushpendra Dhabhai, Mine Manager & Dr. S.B. Shukl
Official with
Designation
- (iv) Date of Inspection : 13-SEP-19
- (v) Prev.inspection date : 18-JUN-19

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 : sunil.duggal@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 correspondance** : RAJPURA-DARIBA
DISTRICT-RAJSAMAND(RAJ.)
PIN-313211
3. (a) **Lease Number** : RAJ0654
- (b) **Lease area** : 1142.2
- (c) **Period of lease** : 20
- (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 : SUNIL DUGGAL
 YASHAD BHAWAN UDAIPUR
 UDAIPUR RAJASTHAN
 Phone: 0294-6604120
 FAX : 0294-6604120

Agent : Ram Murari
 Rajpura Dariba Lead Zinc
 Mine PO-Dariba, Tehsil-
 Railmagra RAJSAMAND
 RAJASTHAN
 Phone: 02952-265164
 FAX : 02952-265143

Mining Engineer

Name : Pushpendra Singh Dhabhai, Full Time
 Qualification : B Tech Mining & FCC-UR
 Appointment/ : 06-JUN-19
 Termination date

Geologist

Name : Shashi Bhusan Shukla, Full Time
 Qualification : MSc Geology
 Appointment/ : 16-FEB-14
 Termination date

Manager

Name : Pushpendra Singh Dhaibhai
 Qualification : B Tech Mining & FCC UR
 Appointment/ : 06-JUN-19
 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

PART - II : OBSERVATION/COMMENTS OF INSPECTING OFFICERS

Exploration :

Sl.No.	Item	Proposals	Actual work	Remarks
1a	Backlog of previous year	Year 2018-19 UG- 12600m Surface- No proposal	Year 2018-19 UG- 10928.4m Surface- 21502.2m	Due to shortfall in U/G exploration during the year 2018-19, violation letter of Rule 11(1) of MCDR 2017 was already issued to the lessee by the previous inspecting officer vide this office letter 08/04/2019.
1b	Exploration over lease area for geological axis 1 or 2	During the year 2018-19 12600m U/G drilling has been proposed to upgrade the resources into G1/G2 level.	During the year 2018-19 10928.4m U/G drilling & 21502.2m drilling from surface has been carried out to upgrade the resources into G1/G2 level.	Due to shortfall in U/G exploration during the year 2018-19, violation letter of Rule 11(1) of MCDR 2017 was already issued to the lessee by the previous inspecting officer vide this office letter 08/04/2019.
1c	Exploration Agencies and Expenditure in lakh rupees during the year	2018-19: UG- HZL, SMS Ltd. & Transnational Drilling & Mining Associates Pvt. Ltd Expenditures Not specified.	2018-19: UG- HZL, SMS Ltd. & Transnational Drilling & Mining Associates Pvt. Ltd Surface-Transnational Drilling & Mining Associates Pvt. Ltd. UG expenditure - 27919919 (INR) Surface expenditure - 90400000 (INR)	
1d	Balance area to be explored to bring Geological axis in 1 or 2	No specific proposal given	N/A	It is U/G Mine, the resources upgade into G1/G2 level with depth continuity of ore body lenses.
1e	Balance reserve as on 01/04/20	Not specified on year to year basis.	11.6 million tons as on 01.04.2019	Nil

1f	General remarks of inspecting officers on geology, exploration etc	Due to shortfall in U/G exploration during the year 2018-19, violation letter of Rule 11(1) of MCDR 2017 was already issued to the lessee by the previous inspecting officer vide this office letter 08/04/2019.
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Development :

Sl.No.	Item	Propasals	Actual work	Remarks
2a	Location of development w.r.t.lease area	During the year 2018-19 U/G mine development of 11600m was proposed . The proposed development locations were: 1.North Lode, 2.East Lode, 3.Main Lode, 4.South Lode	During the year 2018-19 U/G mine development of 6479m was achieved . The proposed development locations were: 1.North Lode, 2.East Lode, 3.Main Lode, 4.South Lode	Violation of Rule 11(1) of MCDR 2017 issued to the lessee for short fall in mine developent by the prevoius inspectig officer vide this office letter dated 08.04.2019.
2b	Separate benches in topsoil, overburden and minerals (Rule 15)	Not applicable as it is U/G Mine.	Not applicable as it is U/G Mine.	Nil
2c	Stripping ratio or ore to OB ratio	Not applicable as it is U/G Mine.	Not applicable as it is U/G Mine.	Nil
2d	Quantity of topsoil generation in m3	Not applicable as it is U/G Mine.	Not applicable as it is U/G Mine.	Nil
2e	Quantity of overburden generation in m3	No OB generation proposal because it is U/G mine however proposed waste generation from U/G mine development was 119600 cum during the year 2018-19.	OB generation-Nil, Total 81828 cum waste generated from U/G mine development during the year 2018-19	Nil

2f	General remarks of inspecting officers on development of pit w.r.t. type of deposit etc	Mine has been developed by underground mining method which is best suited to the type of deposit.
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Exploitation:

Sl.No.	Item	Propasals	Actual work	Remarks
3a	Number of pit proposed for production	Not proposed	Being U/G mine it is not applicable. However production has been carried out in four lodes in U/G working as per proposal.	Nil
3b	Quantity of ROM mineral production proposed	2018-19: 1200000 tonnes.	2018-19: 1079955 tonnes.	Nil
3c	Recovery of sailable/usable mineral from ROM production	As Pb and Zn concentrates. Pb recovery - 68.63% Zn recovery - 83.91%	As Pb and Zn concentrates Pb recovery - 68.40% Zn recovery - 83.81%	Nil
3d	Quantity of mineral reject generation	No mineral reject generation proposal, however after beneficiataion total 880000 tonnes tailing generation was proposed.	No mineral reject generated, however after beneficiataion total 941671 tonnes tailing generated.	Nil
3e	Grade of mineral rejects generation and threshold value declared.	Not specified	In mill tailings Pb- 0.24%, Zn-0.76%	Nil
3f	Quantity of sub grade mineral generation.	No proposal	No subgarde generation	Nil
3g	Grade of sub grade mineral generation	No proposal	No subgrade generation.	Nil
3h	Manual / Mechanised method adopted for segregating from ROM	Mechanized method through froth floatation	Mechanized method through froth floatation	Nil

3i	Any analysis or beneficiation study proposed and carried out for sub grade mineral and rejects.	No proposal	None	
3j	Provision of drilling and blasting in mineral benches	Development blasts using burn cut pattern, VRM and Blast Hole Stopping in stopes	Development blasts using burn cut pattern, VRM and Blast Hole Stopping in stopes	
3k	Provision of mining machineries in mineral benches	Proposed U/G mining by using LHD's,LPDT's, drill jumboo, rock drills, ITH drill machines etc.	U/G mining has been carried out by using LHD's,LPDT's, drill jumboo, rock drills, ITH drill machines etc.	Nil
3l	Whether height of benches in overburden and mineral suitable for method of mining proposed in MP/SOM	Not proposed	Being U/G mine, it is not applicable.	
3m	Total area covered under excavation/pits	It is U/G mine . Area under mining: 5.94 hect.	Area under mining: 5.94 hect.	
3n	Ore to OB ratio for the pit/mine during the year.	Not proposed	Being U/G mine it is not applicable.	Nil
3o	Total area put in use under different heads at the end of year	219.55 hect.	219.55 hect.	Nil

3p	Production of ROM mineral during the last five year period as applicable	Proposed Production of ROM mineral during last five-year period, as applicable 2014-15: 900000 T 2015-16: 800000 T 2016-17: 950000 T 2017-18: 1000000 T 2018-19: 1200000 T 2019-20: 1500000 T	Proposed Production of ROM mineral during last five-year period, as applicable 2014-15: 573284 T 2015-16: 668852 T 2016-17: 745532 T 2017-18: 895568 T 2018-19: 1079955 T 2019-20: 436371 T(up to Aug 2019)	Nil
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3q	General remarks of inspecting officers on method of mining etc.	Method of mining is suitable to the type of deposit.
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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 & OB dumping.	It is U/g mine hence there is no top soil & OB generation. The waste generated duirn the U/G mine development has been carried out as per approved proposals.	Nil
4b	Location of topsoil, OB and mineral reject dumps	Top soil & OB- No proposal, Mineral reject in form of tailing reject disposed off in tailing dam located outside of the lease area.	Mineral reject in form of tailing reject disposed off in tailing dam located outside of the lease area.	Nil
4c	Number of dumps within lease area and outside of lease area	One waste dump within lease area.	One waste dump within lease	Nil

4d	Location of dumps w.r.t. ultimate pit limit (Rule 16)	It is U/g mine hence not applicable.	Not applicable	Nil
4e	Number of active and alive dumps.	One	One	
4f	Number of dead dumps.	None	None	Nil
4g	Number of dumps established.	No proposal	Nil	Nil
4h	Whether Retaining wall or garland drain all along dumps are there.	Yes	Yes	
4i	Length of Retaining wall or garland drain all along dumps	During the year 2018-19 no such proposal given.	Not applicable.	Nil
4j	Number of settling ponds	No proposal	Nil	
4k	Specific comments of inspecting officer on waste dump management			Violation has been pointed out by the previous inspecting officer vide this office letter dated 30.08.2019 for waste dump management.

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 is proposed after full extraction of mineral from U/G stopes.	Backfilling has been carried out after full extraction of mineral from U/G stopes.	Nil
5b	Area under backfilling of mined out area	For the year 2018-19 proposed area under backfilling will be 375000 m3	During the year 2018-19 actual area under backfilling is 386067m3	Nil

5c	Concurrent use of topsoil for restoration or rehabilitation of mineral out area (Rule 32)	No proposal	It is U/g mine, hence not applicable.	Nil
5d	Total area fully reclaimed and rehabilitated	No specific proposal given	Nil	Nil
5e	General remarks of inspecting officers on backfilling and reclamation etc.			It is U/g mine, backfilling of mined out stopes is being carried out 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).	Submitted	Submitted on time.	Nil
6b	Area available for rehabilitation (ha) .	No proposal	Not applicable.	Nil
6c	afforestation done (ha).	4 hect.	5 hect. infill plantation.	Nil
6d	No. of saplings planted during the year	5000 nos.	19000 nos.	Nil
6e	Cumulative no .of plants	Not specified	217500 nos.(up to year 2018-19)	Nil
6f	Any other method of rehabilitation	No proposal	Nil	NIL
6g	Cost incurred on watch and care during the year	Not specified	Rs. 8500000 during the year 2018-19	Nil
6h	Compliance on reclamation and rehabilitation by backfilling (i) Voids available for backfilling (Lx B x D	475000 m3	482316 m3	Nil

6i	Compliance on reclamation and rehabilitation by backfilling (ii) Voids filled by waste / tailings	375000 m3	386067 m3	Nil
6j	Compliance on reclamation and rehabilitation by backfilling (iii) Afforestation 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	None	Nil
6m	Compliance of rehabilitation of waste land within lease (i) afforestation	4 ha	5 ha (infill plantation)	
6n	Compliance of rehabilitation of waste land within lease (ii) Area rehabilitation (ha)	4 ha.	5 ha (infill 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)	Proposal given for regular monitoring of air, noise & water.	Regular monitoring in core & buffer zone is being carried out.	Nil

6q	General remarks of inspecting officers on PMCP compliance and progressive closure operations etc.	PMCP compliances is satisfactory.
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Mineral Conservation:

Sl.No.	Item	Propasals	Actual work	Remarks
7a	ROM Mineral dispatch or grade-wise sorting within lease area	Proposal for ROM dispatched to captive beneficiation plant is given.	All ROM mineral dispatched to captive beneficiation plant within lease area.	Nil
7b	Method of grade-wise mineral sorting i.e. manual or mechanical.	Not proposed	All ROM mineral dispatched to captive beneficiation plant within lease area.	Nil
7c	Different grade of mineral sorted out at mines.	No proposal	All ROM mineral dispatched to captive beneficiation plant within lease area.	Nil
7d	Any beneficiation process at mines	Yes, froth floatation process	Yes, froth floatation process. The beneficiation plant located within lease area.	Nil
7e	General remarks of inspecting officer on Mineral conservation and beneficiation issues			No issue was observed related to mineral conservation.

Environment:

Sl.No.	Item	Propasals	Actual work	Remarks
8a	Separate removal and utilization of topsoil (Rule 32)	No proposal of removal of top soil	It is U/G mine, hence not applicable and there is no top soil generation.	Nil
8b	Concurrent use or storage of topsoil	No proposal	Being U/G mine there is no top soil generation.	Nil

8c	Separate dumps for overburden, waste rock, rejects and fines (Rule 33)	No proposal of OB. Proposal given for U/G development waste disposal.	The waste generated during U/G mine development disposed off on separate dump as per proposal.	Nil
8d	Use of overburden, waste rock, rejects and fines dumps for restoring the land to its original use	No proposal given	The waste generated during U/G mine development disposed off on separate dump as per proposal.	Nil
8e	Phased restoration, reclamation and rehabilitation of lands affected by mining operations (Pits, dumps etc)	No proposal given	Being U/G mine it is not applicable. The waste dump is active.	Nil
8f	Baseline information on existence of plantation and additional plantation done (Rule 41)	During the year 2018-19 total 5000 nos. of sapling was proposed over an area 4.0 hect.	19000 nos. sapling planted for gap filling over an area of 5 hect.	Nil
8g	Survival rate	85%	85%	Nil
8h	Water sprinkling on roads to control airborne dust	Proposal given	To control the dust, the water sprinkling on haul roads is being carried out.	Nil
8i	General remarks of inspecting officer on aesthetic beauty in and around mines area			Aesthetic beauty is good in and around mines area.

Compliance of Rule 45:

Sl.No.	Item	Propasals	Actual work	Remarks
9a	Status of submission of Monthly and Annual returns	MR submitted up to Aug 2019 & AR submitted up to 2018-19.	Submitted on time.	

9b	Scrutiny of Annual return for information on Mining Engineer, Geologist and Manager	Details given	Found Ok	
9c	Scrutiny of Annual return on land use pattern for area under pits, reclaimed area, dumps etc.	Used for waste disposal- 3Ha Occupied by plant, buildings, residential, welfare buildings and roads- 219.550Ha Other- 991.660Ha	Found ok	
9d	Scrutiny of Annual return on afforestation	Details given	Details given	Nil
9e	Scrutiny of Annual return on mineral reject generation (Grade and quantity)	941671T Pb- 0.24% Zn- 0.76%	941671 T tailing reject generated during the year 2018-19. Pb- 0.24% Zn- 0.76%	Nil
9f	Scrutiny of Annual return on ROM stock and/or graded ore	A toal of 1079955 T of mineral production has been reported.	A toal of 1079955 T of mineral production has been carried out.	Nil
9g	Scrutiny of Annual return on sale value, Ex. Mine price and production cost	Detail given	Cost of production per tonne Rs 4755 shown.	Discrepencies in cost of production was pointed out by previous inspection officer vide letter date 30.08.2019.
9h	Scrutiny of Annual return on fixed assets	Detail given	Fixed assets Rs 3005735912 shown.	Nil
9k	Scrutiny of Annual return on mining machineries	Details given	Machinaries are being using in U/G mine.	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 31(4)	19-SEP-19			

Date :

(DATA RAM GURJAR)

Indian Bureau of Mines